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ABSTRACT

The Vision 2000 program was initiated in 1988 to review the mandate of Ontario's Colleges of Applied Arts and Technology. Five study teams and a steering committee were involved in the program. Study Team 1's task was to provide an empirical snapshot of the current college system and its external environment. At the outset of its work, Study Team 1 intended only to gather background material for the other four study teams. In the course of conducting its research, the team discovered the trade-offs inherent in the relationships among educational quality, access to postsecondary education, and educational funding. Responses to these trade-offs seemed to play a key role in determining the performance of the college system. This final report of Study Team 1 begins with a description of how the college system has responded to the quality-access-funding tradeoff in the past decade, then looks forward to speculate on how conducive the future environment will be to improving quality and access. The report concludes with a set of recommendations on support structures and revenue and funding. The recommendations address the need to gain a better understanding of and better strategies to deal with the trade-offs; to increase the allocation of public and private resources to the colleges; to improve the accessibility of college programs to part-time learners; to improve the likelihood of success of underprepared students; and to bring to the forefront the importance of adequate funding. An appendix entitled "The College System--An Empirical Snapshot" provides detailed data in five sections on: college students; educational programming; colleges and alternative educational systems; financial analyses; and college staff. (JMC)

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Some Empirical Features of the College System

Responding to Quality, Access & Funding Trade-Offs

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Study Team 1 Final Report

VISION 2000

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Study Team members participated in Vision 2000 as individuals. There is no implied or necessary connection between the opinions expressed in this Final Report and the positions or policies adopted by the organizations with which Study Team members are affiliated or employed.

Vision 2000 is a review of the mandate of Ontario's Colleges of Applied Arts and Technology. It is coordinated by the Ontario Council of Regents and was initiated by the Minister of Colleges and Universities in October of 1988.

A Steering Committee, with broad-based representation, was established to guide the Vision 2000 process. Consultation, with a wide variety of stakeholders, and research was handled by five study teams. Study Team 1's task was to provide an empirical snapshot of the current college system and its external environment. Study Team 2 examined the role of colleges in our changing economy, while Study Team 3 looked into ways that the college system could promote access and educational support for diverse learners. Study Team 4's purpose was to study the challenging interrelationships of quality, accessibility and efficiency. For Study Team 5 the research and consultation focussed on the linkages between colleges and other educational institutions.

The Final Report of Study Team 1 is the outcome of the deliberations of the members of Study Team 1, Chaired by Howard Rundle. This Final Report does not necessarily represent the views of the Vision 2000 Steering Committee, the Ontario Council of Regents, or the Government of Ontario.

The members of the Study Team wish to thank the Vision 2000 secretariat and the Council of Regents staff, particularly Michele Nugent and Barbara Lidston, for their tireless contribution to the process.

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Introduction

At the outset of its work, Study Team 1 intended only to undertake a series of 'mini-projects' which could serve as background material for the other four study teams. Summaries of the findings of each project are provided in the Appendix, "The College System — An Empirical Snapshot."

In the course of doing the mini-projects, however, it became clear to us that a fundamental question facing the college system requires some attention, that question being: "How should the college system respond to the quality - access - funding trade-off(s)?" The resolution of the 'conflicts' or trade-offs inherent in the quality - access - funding relationships, and the process by which these conflicts are resolved, ultimately determine the performance of the college system. The resolution of these conflicts also affects how the system is perceived by students, their teachers and parents, employers, and taxpayers at large.

The interrelationships among quality, accessibility (in terms of both numbers and types of students), and funding are not easily defined in any precise manner. For example, if total revenue (measured in constant dollars) to the college system were to remain constant over a given period of time, initially it might be possible to increase enrolment without adversely affecting the quality of education. Colleges might be able to undertake actions such as reducing expenditures on equipment, capital maintenance, and professional development of staff; reducing program hours (with commensurate increases in independent study); and increasing the utilization of their staff. In the short run, these actions may lead to increases in accessibility through gains in efficiency (i.e., through reductions in per student expenditures without any accompanying reductions in quality). And some measures (e.g., improved staff and facilities utilization) may even have the potential of providing permanent, long run efficiency gains.

Any measure, however, if taken too far will adversely affect the quality of education, although the impacts may not be 'visible' for some time. Equipment will not deteriorate over night, nor will staff morale or their performance. This can lead to a false sense of security among government and college decision-makers. It may also lead to following a particular policy direction (in this example increasing accessibility without increasing real revenues) to the point that unintended outcomes (e.g., unacceptable reductions in quality) occur. Thus, in developing answers to the question, "How should the college system respond to the quality - access - funding trade-off(s)?," one must also undertake steps to gain a better understanding of the nature of the trade-off itself.

In this report, we begin with a description of how we perceive the college system responded to the quality - access - funding trade-off in the past decade. We then look forward and ask how conducive will the future environment be to improving quality and access. The report concludes with a set of recommendations. The recommendations, which are far from comprehensive, include what we feel to be some necessary courses of action if we are to better understand and cope with the quality - access - funding relationships in the future.

For the most part, the report confines itself to these relationships as they pertain to college offerings funded by the Ministry of Colleges and Universities (MCU). At present, MCU funding accounts for about 50% of total college revenues, and when associated tuition fees are included, the percentage rises to about 60%. Almost three-quarters of college system activity (i.e., FTE enrolment) is funded through MCU. The other two main sources of funding, the Ministry of Skills Development (MSD) and the federal government, account for approximately 25% of college revenues.

The Quality, Access & Funding Trade-off, 1978/79 to 1988/89

During the period 1978/79 to 1983/84, the total MCU operating grant (measured in constant dollars) increased 1%. Over the same period, enrolment (FTEs supported by MCU operating grants) increased 49%; therefore, real funding per student provided to colleges by MCU declined approximately 33%.[1]

It is possible to view this situation as representing either (a) a dramatic increase in efficiency, or (b) a decline in quality — or some combination of the two. While, at the time, the data[2] provided were interpreted by government to suggest that real gains in efficiency were being made, this interpretation was challenged in later analyses.[3]

During the period 1983/84 to 1988/89, the total MCU operating grant (measured in constant dollars) increased about 22%. Over the same period, enrolment (FTEs supported by MCU operating grants) remained essentially unchanged, increasing only 1%; therefore, real funding per student provided to colleges by MCU increased by approximately 21%.[4] The low enrolment growth, however, was not the result of qualified applicants being denied admission to college programs; that is, over this period there appears to have been no intention to limit enrolment growth. Improving economic conditions and reaction to concerns expressed about the quality of education during the faculty strike in 1984, may have adversely affected enrolment rates.

For this time period, the increase in real funding per student also may be interpreted as representing either (a) a decrease in efficiency, or (b) an increase in quality — or some combination of the two.

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[1] . See Appendix, p. 43.

[2] . See Report of Task Force on Productivity Indices, An Analysis of Unit Operating Costs in Ontario's Colleges of Applied Arts and Technology, 1978-79 to 1982-83, (MCU, 1984).

[3] . See, for example, Report of the Instructional Assignment Review Committee, Survival or Excellence?, (1985).

[4] . See Appendix, p. 43.

It is important to note that the reversal in MCU funding patterns coincided with three events, namely: (a) in 1984, a faculty strike over workload; (b) in 1985, the report of the Instructional Assignment Review Committee (IARC), a committee established by an Act of the Legislative Assembly to review all aspects of instructional assignments in the CAATs; and (c) in 1986, following prolonged negotiations, the introduction of a new workload formula for faculty. In addition, the major change in governing parties (1985) may have played some role, given the 'opposition' party's position on post-secondary funding patterns at the time of the 1984 strike.

The report of the IARC noted the differing views of faculty and senior college administrators on the reasonableness of faculty workloads and the impact of these workloads on the quality of education. The Committee concluded, however, that:

> The faculty viewpoint more accurately reflects current realities ... and those who are responsible for instructional assignments in the colleges are faced with a choice: either to allow the system to stabilize near or at a 'survival level' or to redirect their energies toward the achievement of excellence. (IARC Report, Letter of Transmittal to Minister)

The contract negotiations, which followed the IARC report, resulted in new workload provisions for faculty which significantly reduced their teaching hours. The new contract also led to the injection of $60M, by the provincial government, to allow for the hiring of additional faculty (approximately 800, an increase of 11%). It should be noted that the additional funding was required to maintain accessibility, given the contractually-defined reductions in workload. However, in the absence of agreed upon indicators, the effects on quality remain a matter of interpretation.

In addition to reducing faculty workloads, the workload provisions are perceived by some to have led to rigidities which limit the system's ability to be innovative in program delivery and responsive to changing demands placed on it. One, however, could also make the case that the new workload provisions, with their many 'controls' on instructional assignments, place a premium on planning for change, and, in the long run, this may improve colleges' responses to new demands from their communities.

From our examination of the period 1978/79 to 1988/89, we conclude, first, that the funding policy of government prior to 1984 led to unintended outcomes, namely: (a) the 1984 strike and its aftermath; and (b) the perception of many that quality had indeed declined and remedial action was required. Second, we conclude that there are not in place effective mechanisms or processes for either (a) examining the quality - access -funding relationships or (b) deliberately determining which actions are likely to be most effective in minimizing the negative effects (and unintended outcomes) of the trade-offs inherent in these relationships.

2000 and Beyond

Early in the 21st century, if not sooner, the college system will likely be faced with conditions similar to those prevailing in the early 1980s, namely: increasing demand for places in the college system and insufficient government resources to meet this demand without reductions in quality.

Our concerns about the future relationship between the resource needs of the college system and the availability of public resources stem from many factors, including the following considerations:

(a) The rather dramatic aging of our population, which will occur in the coming decades, will place increasing expenditure pressures on governments. The result will be that "the distribution of public resources among age groups may shift in a manner which does not favour post-secondary education."[5]

(b) "While real productivity gains in an education sector are possible, history would suggest that productivity gains in this sector will not keep pace with gains in other more technologically-based sectors."[6] Given the labour-intensive character of education, it is likely that per unit costs in the college sector (as in other parts of the education sector) will rise relative to the per unit costs of many other types of economic activity.

(c) Demand for college education is likely to increase as a result of rising income levels, technological change, industrial restructuring, and the effects of demographic changes. Pressure will exist to provide significant retraining opportunities to the existing labour force, as well as to meet the increasing expectations of youth to participate in post-secondary education.[7]

(d) There are, and will continue to be, pressures on the college system to improve the quality of its offerings, particularly in the areas of remedial assistance for underprepared learners (both younger and older) embarking upon post-secondary studies and services provided to part-time learners and special needs students.[8]

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[5] . Vision 2000, With the Future in Mind: An Environmental Scan, (Toronto: Vision 2000, 1989), p. 37.

[6] . See Appendix, p.45

[7] . See Appendix, pp. 3-5; and Vision 2000, op. cit., pp. 28 and 35.

These conditions lead us to ask: How can *unintended* outcomes (e.g., unplanned reductions in quality) be avoided? Similarly, how can *undesirable* outcomes be minimized? For example, given limited public resources and the need to, at minimum, maintain quality, how can inappropriate limitations on accessibility be avoided?

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[8] . See Appendix, pp.5-7; and pp.13-18.

Recommendations

A. Support Structures

▲ 1 ***A College System Strategic Planning Committee should be formed to: (a) develop mechanisms for examining the trade-offs associated with quality, accessibility, and funding; and (b) recommend strategies for addressing these trade-offs.***

Background and Comment:

The Committee should be composed of college administrators, college faculty, and government officials and should be a standing committee of the Council of Regents.

As part of its work, the Committee should:

(a) establish mechanisms for obtaining annually from the college system and its external environment comprehensive information, both quantitative and qualitative, concerning, for example: the types and number of applicants gaining and not gaining admission to college courses and programs; population groups who appear to be underrepresented in the college system; new approaches to the delivery of courses and programs which enhance efficiency and/or accessibility; resource inputs, which either in number are inadequate or in quality are deteriorating; and other indicators such as program hours, employers' and graduates' perceptions of college programs, and actual career paths and ongoing training needs of college graduates. Such information should be collected for full-time and part-time activities of the colleges.

(b) undertake to 'determine' what it would cost per student for colleges to be institutions "that would be regarded as near the margin between adequacy and acceptability."[9] (The cost per student should be weighted to reflect differences among programs in unit costs and government-sanctioned differences among colleges in unit costs.) The results of this exercise would serve as a *minimal* benchmark against which college revenues per student could be compared and would provide another means for monitoring and evaluating the level of support being provided to colleges. While such an exercise necessarily contains many subjective elements, we feel it an important one to undertake. We note that a similar project was initiated in the United States in the late 1970s by Howard Bowen for the Carnegie Foundation.

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[9] . Howard R. Bowen, The Costs of Higher Education - How Much Do Colleges and Universities Spend per Student and How Much Should They Spend?, (San Francisco: Jossey-Bass Inc., 1980), p. 234.

(c) through the Council of Regents, provide annually to the Minister and to each college's Academic Council and Board of Governors a report which: (i) assesses the state of quality and accessibility in the college system and the existing relationship(s) among quality, access, and funding; and (ii) provides advice on directions the college system and government should pursue.

Initially the Committee might find these tasks to be rather daunting. However, Study Team 1 has been impressed with the amount of data already being collected, either by individual colleges or system-wide by MCU, which would be useful to the Committee. While some work on data collection is required, notably in the area of continuing education and in the development of indicators of quality, the analysis and dissemination of information derived from data systems already in place should benefit the system greatly (and at relatively low cost). Study Team 1 also notes that its own composition (i.e., government officials, college faculty, and college administrators), allowed for the perspectives and knowledge of the various constituencies to be simultaneously taken into account. We believe that this 'mix' led to a better understanding of college issues than would have been the case if the Team's membership had been more narrowly defined. Thus, we have no hesitancy in recommending a broadly based membership for the Strategic Planning Committee.

▲ 2 ***The college system should establish the capacity to become an effective advocate of the value of a college education which is of high quality and is broadly accessible.***

Background and Comment:

Public awareness of and confidence in the value of a college education must be increased if the college system is to maximize its contribution to Ontario's economic and social development.

Colleges are generally respected as educational institutions.[10] However, there is evidence that public confidence in the performance of colleges is not as high as one would hope. For example: (a) prospective students do not appear to view colleges in as positive terms as they do universities — this seems to be in large part due to a concern that a college education leads to relatively early 'career-dead-ending';[11] (b) employers express concerns about the communication and problem-solving skills displayed by college graduates and, as previously noted, college faculty and observers external to the college system have brought into question the quality of education and training being provided in the colleges; (c) the adequacy of educational opportunities provided by colleges for disadvantaged or special groups within our population is being questioned; and (d) both the federal and provincial governments, through their increased emphasis on private-sector training, are indicating, if not directly, concerns about the costs of training provided by colleges. This environment is further complicated by increased competition from other sectors for scarce public resources, and this competition is likely to intensify as we approach the 21st century.

In this environment, it is essential that colleges not only improve, where appropriate, their performance in areas of public concern but, also, undertake effective two-way communications with their various publics — prospective students, parents, alumni, other educators, employers, labour and government. With respect to these communications, the college system should: (a) regularly engage the various college publics in discussion and debate on major college issues (e.g., the purposes of a college education, quality and accessibility issues, major curriculum reforms such as generic skills training, the costs of college education and tuition fees, and college resource requirements); and (b) regularly 'make the case for the college system' to the public at large and the provincial government.

These responsibilities, which constitute what might be termed an advocacy role, are ones which we believe require some attention. In the past, the perception among some is that the college system's leadership has not assumed a collective responsibility for the advocacy role. (For example, see the Report of the

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[10] . See, for example, Appendix, p.40.

[11] . Appendix, p.40.

Instructional Assignment Review Committee, 1985 and Pascal, "Cabinet Minister Interviews," Vision 2000, 1989.) While the Committee of Presidents has in recent years sponsored some promotional activity, this work has not been seen to have been informed by a systematic marketing approach. With respect to lobbying government for more support, the only visible activity seems to be union initiated. This activity has been largely associated with collective bargaining activity and is perceived by some to be serving the narrow interests of the bargaining table rather than a broadly based and systematic effort to increase general revenues for the system. Regardless of perceptions, there seems to be a need for a systematic approach (not necessarily more visible all the time) to giving and getting information to and from decision-makers for the purposes of ensuring that they make more informed decisions regarding the college system.

What is required, we believe, is that the college system's presidents and boards of governors, collectively (e.g., through the Association of Colleges of Applied Arts and Technology of Ontario) and individually, assume the responsibility for 'making the case for the college system' to the provincial government and the public at large. The advocacy role involves a variety of activities, ranging from informing the general public and prospective students of the value of college programs and of major college issues, to the development of position papers for presentation to the Minister and Treasurer. As well, it is important that local Board Chairs and Presidents develop and implement an effective means for regular two-way dialogue with their college region's MPPs. These advocacy activities must not, however, become a rhetorical exercise. If, in this advocacy role, claims are made that accessibility is improving (or declining), then these claims must be supported by reliable indicators which, where necessary, reflect regional differences in the composition of population. Similarly, if claims are made that quality is improving (or declining), such claims must be based on accepted indicators.

To do this effectively will require a commitment of resources by the college system. The government should not be adverse to contributing financial resources to assist the college system in its advocacy role. In addition, those involved in the advocacy role should have access to the background work of the Strategic Planning Committee. Only if the college system performs its advocacy role well, will prospective students and government have the information necessary to make effective choices (e.g., enrolment decisions by students and resource allocation decisions by government) which reasonably reflect the public interest.

In determining whether improving the advocacy capacity of the college system would lead to demonstrable improvements in the amount of public and private resources allocated to the college system, the college system should look elsewhere to learn from others' experience. In the university sector, for example, the Council of Ontario Universities (COU), an organization composed in large part of university presidents, has consistently and strongly argued for increased funding. Yet in the ten year period, 1977/78 to 1986/87, operating expense per FTE student in the university system was as much as 17% below the 1977/78 level (e.g., in 1982/83 and 1983/84). In 1986/87 it still remained 12% below the 1977/78 level.[12] These data suggest that COU's efforts had little impact, at least until one examines the college system's experiences over the same period. As described earlier, the college system experienced a similar pattern of decline followed by some improvement. However the colleges' decline was more marked, and the improvement, although as significant as in the university sector, came only after major labour unrest in the college system. While, it may be a matter of conjecture, it would seem that COU's efforts had some positive impact on the level of resources allocated to the university sector. If nothing else, it demonstrated to university faculty and staff a concern by university leadership about the impacts of funding restraints. It is also difficult to determine what would have taken place without COU's efforts. Most importantly, the Committee of Presidents would be well-advised to evaluate COU's experience and the experience of selected government officials with the COU approach.

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[12] . Council of Ontario Universities, The Financial Position of Universities in Ontario: 1988, (1988), p.18.

B. Revenue and Funding

▲ 3 ***The impacts of increasing tuition fees should be fully assessed, in terms of the effects on college revenues and accessibility; and colleges should consider expanding their private-sector fundraising efforts.***

Background and Comment:

(i) Tuition Fees

What is the current status of college tuition fees?

In 1989/90, the standard tuition fee for a full-time, post-secondary student attending a CAAT is $685 for two semesters. This amounts to approximately $0.85 to $1.00 per student contact hour and represents, on average, about 11% to 12% of college operating revenues (standard fee plus MCU operating grant to college) attributable to the presence of a full-time student. The standard fee applies to all full-time students, whatever their choice of program and thus whatever the program cost per student contact hour. In the college system, the more expensive programs in terms of cost per student contact hour usually cost, or more accurately are funded as if they cost, about 40% to 50% more than the least expensive programs.

In addition to the standard fee, colleges may also charge students for non-tuition related items (e.g., the costs of learning materials, equipment, and clothing retained by the student).

International students pay a standard fee of $5,705 — a fee which is intended to reflect the 'full' per student operating expenditures of colleges.

The fee for a part-time student enrolled in provincially-supported courses is $1.60 per contact hour. This fee represents about 25% of college operating revenues (fee plus MCU grant) attributable to the presence of such a part-time student. In courses not eligible for provincial funding (e.g., general interest courses), part-time fees may be whatever a college deems appropriate.

Changing circumstances require an assessment of the tuition fee structure. In addition to the likely increasing limitations on the ability of government to provide additional resources to the system, the composition of the college student body is likely to change in fairly significant ways. For example, older students are likely to represent an increasing proportion of the college student body. Some of these older students will be attending part-time, while working; others will be attending full-time and utilizing savings from past labour force experience; but, still others will be laid-off workers or persons on fixed incomes, attempting to improve their economic circumstances through training.

The proposed assessment of tuition fees should examine, among other things:

(a) the rationales (economic and social) for the level of subsidy inherent in the college system's fee structure;

(b) the objectives of current government accessibility, income redistribution, and economic policies as they relate to the college system and the effectiveness of current fee and student assistance policies in meeting these objectives;[13]

(c) the impact of alternative fee levels and structures and various student assistance schemes (grant and loan) on: accessibility and income distribution; the rates of return to a college education; and the total investment (public and individual) in college education. The alternatives considered should include, but not be limited to: (i) maintaining a standard fee but increasing it; (ii) establishing different fees for different programs, with fee differentials being related to differences in programs' instructional costs and/or differences among programs in the rates of return to graduates; and (iii) introducing an income-based contingent repayment loan scheme; and

(d) whether fee policy for part-time and full-time students should be the same (i.e., should part-time fees be simply pro-rated versions of full-time fees or are there significant reasons for developing separate and distinct fee policies for full and part-time students).

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[13] In addition, consideration might also be given to expanding the assessment of student assistance practices to include an examination of policies governing students enrolled in private vocational schools. These schools, currently admitting about 30,000 students, represent for many students a reasonable educational alternative to a community college education. These schools add not only to the capacity of the overall educational system in Ontario, but also to the diversity of this system. At present, private vocational students are eligible for grant and loan assistance and may receive assistance up to the maxima established for CAAT students. We are not aware of any significant problems private vocational school students experience with current student assistance policies. It is possible, however, that at some point in the future it may be desirable, from a societal perspective, for private vocational schools to expand their role in the delivery of certain types of specific skills training. (See Robert Marshall, Private Vocational Schools — The Fourth Option?, (Toronto: Vision 2000, 1989) and Appendix, pp. 27-28.) This being the case, it may be necessary to alter financial assistance policies to facilitate greater accessibility to these schools. An examination of how alterations to the student aid policies might be made without injuring our publicly funded colleges may be worth considering.

It is important to note that the university sector has already begun an assessment of tuition fee policies.[14] Given that the colleges' role in post-secondary education is quite different from that of the universities, as is the make-up of students (e.g., in terms of family income), the Study Team believes that a similar study should be undertaken for the college system. It does not seem appropriate to use the results of an analysis of university fees as a significant input to policy discussions of college fees.

(ii) Private-Sector Fundraising

Estimates of college fundraising indicate that private-sector contributions account for approximately 0.6 percent of total system operating revenues. Thus, at this stage, private-sector contributions represent an extremely small proportion of system revenues. Even with very major increases, private-sector contributions would still represent a very small proportion of college revenues. (Government policy permits colleges to raise funds equal to 5 percent of their operating revenues, although Ministerial approval may be obtained to exceed this limit. Government policy also permits colleges, subject to Ministerial approval, to establish foundations — non-profit corporations established to raise funds.)

In periods of constrained public funding, however, even relatively small private-sector contributions represent an important potential alternative source of revenue for the college system. As pointed out in the report of the Commission on the Future Development of the Universities of Ontario (1984), private-sector contributions can serve: "(a) to provide an important margin for improvement, so as to promote excellence rather than adequacy; (b) to support innovative and risky programs with potentially large long-range pay offs; (c) to retain some degree of flexibility, diversity and autonomy; and (d) to provide a buffer against the adverse effects of sudden shifts in government funding. In short, even a modest increment of private support would contribute to the objectives of greater adaptability, excellence and diversity."[15]

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[14] . David A. A. Stager, Focus on Fees — Alternative Policies for University Tuition Fees, (Toronto: Council of Ontario Universities, 1989).

[15] . The Commisssion on the Future Development of the Universities of Ontario, Ontario Universities: Options and Futures, (1984), p.27.

Study Team 1 believes that the college system should undertake a formal assessment of strategies which might be used to increase private-sector donations. This assessment should examine the potential for colleges to raise funds (and donations in kind) individually and cooperatively as a system as a whole. The assessment should pay particular attention to not only the methods employed by other recipients of donations but, also, to the impacts of increasing demands from other sectors (e.g., universities, hospitals, environmental groups ...) for donations and carefully weigh the costs and benefits of a range of strategies. One approach which should be given a full examination is the development of joint training ventures with business and industry sectors. This approach has already yielded some benefits (e.g., Georgian College's links with the automotive sector) and would seem to be particularly well-suited to the colleges given their vocational mandate and the increased emphasis government is placing on the development of partnerships.

The government itself should consider providing increased incentives for joint college-private sector ventures. For example, in addition to the normal operating and capital support which might be generated by students enrolled in joint venture training programs, the government might provide a 'bonus' which matchs, although not necessarily on a 1 for 1 basis, the funds contributed by an industrial or business sector. Also, greater incentives for contributions might be built into taxation policies. At minimum, the government should develop policies and procedures which ensure that private-sector contributions will not adversely affect public-sector support to the colleges.

While private-sector contributions should be encouraged, the initiatives supported by these contributions should not conflict with or detract from the publicly determined mandate of the college system. Thus, in the context of a possible expansion in private-sector contributions, we believe the government and college system should jointly review current fundraising policies to ensure that appropriate safeguards are in place.

▲ 4 ***Provincial funding and college expenditures should explicitly recognize the nature of services required by part-time learners and underprepared students entering post-secondary programs.***

Background and Comment:

The funding of instructional and support services for part-time and underprepared students requires specific attention.

(i) Part-time

It is fast becoming the norm for significant numbers of workers to change jobs and occupations several times over their lifetimes. Given this, and the changing age structure of our population, the demand for instruction on a part-time basis has the potential of increasing at unprecedented rates.[16] But, if a high proportion of this potential demand is to be translated into actual enrolment, the colleges will need to be more responsive to the needs of part-time students. Such responsiveness requires several types of changes, not the least of which are: (a) a shift in college administrators' priorities resulting in part-time learners being treated with the same priority as full-time learners; and (b) government funding policies which facilitate and encourage this reshaping of priorities.

In examining the funding of part-time activity in the college system, Study Team 1 found two areas which require specific attention, namely:

(a) Part-time students undertaking courses during the *daytime* do not generate for the colleges as much grant funding per contact hour as do the full-time students with whom the part-time students are sharing the same classroom. Part-time students generate at least 25% less per contact hour than full-time students. Only part of this difference is offset by a part-time fee which, in relative terms, is higher than the full-time fee. (This differential in grant funding is largely due to part-time day students generating funding as if they are being taught by part-time teachers, who receive less per teaching hour than the full-time teachers.) As a result of the funding differential, part-time students are at a disadvantage when seeking admission to day-time courses.

It is relatively simple to adjust parameters in the funding mechanism to ensure that part-time day students generate the same revenues per contact hour as full-time students. However, it must also be recognized that a full-time student, purchasing several courses at once, provides certain economies of scale (e.g., in terms of administration and scheduling) which a part-time student cannot. Therefore, to ensure equal treatment of part-time and full-time day students, it may be necessary to adjust the parameters such that a part-time, day student generates (on a pro-rated basis) more revenue than a full-time student.

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[16]. Vision 2000, op. cit., p.35.

(b) It is our perception that at many colleges, *evening* part-time activities are operated in ways designed to generate 'profits' — profits which are often not re-invested in the part-time area of a college's operation, but instead are used to 'subsidize' full-time programs. As a result of these practices, colleges implicitly place restrictions on the range of services provided to part-time students. These restrictions may not only be in terms of support services provided to part-time students but, also, in terms of flexibility in the scheduling, location and size of heretofore evening classes.

One must ask: "To the extent that (potential) evening part-time students (are offered) receive services which are inadequate or are not comparable with those received by full-time students, how much of this is due to inadequate provincial funding of evening part-time activities? And, how much is due to the internal budgetary practices of colleges, possibly necessitated by inadequate funding of the colleges' full-time programs?" The answer to these questions requires not only a thorough examination of colleges' budgetary practices but, also, the development of provincial policy on the level and nature of services which should be available to part-time learners.

Changes in funding practices, while necessary, will not on their own lead to full equality in treatment of part-time and full-time students. In the national study of part-time education, The Barriers Project (1989), college educators stressed that there was an absence of a college culture in which all college staff recognize and take responsibility for the needs of the part-time learner. "Success with full-time clients has blinded decision-makers from full acceptance of the needs of part-time clients."[17] To affect a change in attitudes is difficult and requires strong support and commitment from the leaders of each college. We believe such support would be more likely to develop if part-time students had a greater voice in college decision-making. (To date, student representation on college boards of governors and on college councils has been almost exclusively from the full-time student body.) Accordingly, representation of part-time students on college boards and councils should be encouraged, possibly through the appointment of external members who have been part-time students or through the election of current part-time students.

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[17] . Confederation College, The Barriers Project, (1989), p.1.

(ii) Underprepared Students

We wish here to focus our comments on students who enter post-secondary programs, but are found to be deficient in some basic skill areas (e.g., literacy and numeracy skills). While it is difficult to measure the size of this portion of the college student body, there is growing evidence that a significant number of post-secondary entrants experience serious difficulties in their programs owing to basic skill deficiencies. For example, college teachers report the presence of underprepared students on a regular basis and statistics on college attrition rates and literacy levels of high school and college students[18] lend support to the college teachers' assessments. At Sheridan College (Brampton Campus), for example, a reading test has been administered since 1983/84 to all first year post-secondary students. As of March 1988, of the 4,273 students who had written the test, approximately 40% scored at a grade 10.0 level or below. (Note: These tests were administered on registration day and thus may not represent a normal achievement level for the students.) In the Southam study, Literacy in Canada "A Research Report" (1987), in which functional literacy was defined in terms of tasks that could be successfully completed by literate people, 17% of high school graduates were found to be functional illiterates.

All other factors being equal, changes taking place in secondary school curriculum, and improved links between the secondary school and college systems, should lead to fewer students experiencing difficulties with their college programs. We must, however, also recognize that as post-secondary enrolment rates (% of a given age group enrolled in university and college post-secondary programs) continue to rise, the likelihood of students experiencing difficulties should increase, *all other factors being equal*. Given what might be viewed in this context as offsetting forces —

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[18] . See Appendix, pp. 13-16.

increasing skill levels of secondary school graduates and increasing post-secondary enrolment rates — we do not expect that the issue of underprepared students will disappear.

At this time, there is not a clear, explicit statement indicating what the colleges' mandate is with respect to underprepared students. There may be some reluctance on the government's part to explicitly sanction and fund the colleges' provision of preparatory courses to students enrolled in the colleges' post-secondary programs. Doing so would be viewed by some as pointing to inadequacies in the secondary school system and by others as debasing college post-secondary programs.

We do not believe either view should be allowed to dominate the policy discussions related to the underprepared student. The first viewpoint does not accurately reflect the performance of our secondary school system. Since 1976/77 the enrolment rate of 19 year olds in our college and university systems has increased 50%, from a rate of 26% in 1976/77 to 39% in 1988/89. With such a large increase, it would have been very surprising if the issue of underprepared students had not arisen in our colleges and universities. In addition, the changing ethnic composition of Ontario's population has meant that for an increasing number of students English is not their first language.[19] With respect to the second viewpoint, rather than debasing college programs, the expansion of remedial course offerings would serve to emphasize the high priority colleges are giving not only to increasing accessibility but, also, to enhancing the standards and likelihood of success in their post-secondary programs.

The lack of explicit government policy has not meant that these students have been entirely neglected by colleges in the past. Colleges have used 'back-door' means to obtain some funding for remedial courses for post-secondary students. For example, some colleges have assigned two functions to their (funded) General Arts and Science (GAS) programs. The first function is career exploration and general education — the original (and approved) purpose of most GAS programs. The second function relates to remedial and preparatory work, for which colleges have not obtained explicit approval from MCU. However, the lack of explicit funding for underprepared post-secondary students has meant that many colleges do not have in place the necessary assessment and counselling services. Nor have the colleges undertaken to provide the remedial/preparatory courses to the extent these students are thought to require.

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[19] . Vision 2000, op. cit., pp. 22-23.

Who should be responsible for providing them the opportunity to upgrade their basic skills? The secondary school system? the colleges? other groups involved in education?

Study Team 1 believes that the college system's mandate should explicitly direct colleges to provide the necessary assessment, preparatory, and remedial measures for students (i.e., secondary school graduates and mature students) embarking upon college post-secondary programs. There should be clearly defined procedures for obtaining funding for 'post-secondary' students enrolled in basic skills courses (e.g., literacy training) and in subject areas which are specified as prerequisites (e.g., chemistry) for a particular post-secondary program. We believe that in most instances, this would represent a better course of action than directing these students to the secondary schools or other educational agencies for upgrading and prerequisite courses. Many students would be reluctant to return to secondary school, and the colleges are in a better position to tailor the courses (in terms of both content and teaching/learning styles) to the post-secondary programs in which these students are enrolled.

The allocation of more resources to the training of underprepared students should represent a profitable public investment. Student attrition rates should fall, and pressures to reduce program standards would diminish. Moreover, without further increases in labour force participation rates, the changing demographics will lead to population growth exceeding labour force growth, a pattern which is the opposite to what we have experienced in the last several decades;.[20] Future economic growth will depend increasingly on raising the skill levels of our labour force and less on growth in the size of the labour force, which, in turn, will give added importance to measures which increase post-secondary enrolment and completion rates.

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[20] . Ibid., p.48.

▲ 5 ***Revenues received by each college from the Provincial government should be stabilized in terms of the funding per student.***

Background and Comment:

As described earlier, MCU funding per student varied considerably over the period 1978/79 to 1988/89. If, for example, in 1988/89 the college system had been funded at the 1978/79 per student level — the peak level during this period — the system's operating grant would have been *23% more* than actually provided. If, however, the system had been funded at the 1982/83 level — the lowest per student level over the period — its 1988/89 grant would have been *17% less* than that actually provided.

This 'roller-coaster' type of existence has taken its toll on the college system. Throughout this ten-year period, the vast majority of qualified applicants gained admission to the college system. However, there is concern that the overall quality of their education suffered not only as a result of the decline in funding per student but, also, as a result of the instability in the funding per student.

In part, this variation in funding per student was the colleges' own doing. They resisted 'managing' enrolment in a manner which would have lessened the variation. One can probably attribute this behavior in large part to three factors, namely: (a) a strong commitment to maximizing accessibility; (b) the fact that, on the one hand, the number of qualified applicants being turned away can be measured, while, on the other hand, measuring quality and the impacts of different levels of quality are considerably more difficult and subject to a variety of interpretations; and (c) the provincial operating grant is distributed among the colleges on the basis of each college's share of activity (weighted FTE enrolment). Thus, in the absence of agreement among the twenty-two colleges on target enrolments, there is a natural tendency for each college to maximize its enrolment in an effort to maximize its revenues.

The college system and government should jointly determine an acceptable funding value — acceptable in 'quality' terms — for a weighted FTE student, below which a college should not fall.[21] (The Strategic Planning Committee, proposed in

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[21] In a more technical sense, we should be referring to an acceptable level of expenditure per student, which would take into account that expenditures are supported not only by government operating grants but, also, by other sources such as tuition fees and college reserves.

Recommendation 1, above, should be responsible for determining the acceptable level of per student funding, and for revising it as circumstances change.) To ensure that a college's funding per student did not fall below this specified value, changes would need to be made to the existing method of funding. For example, at one extreme, total funding could become 'open-ended' — the government would agree to, at minimum, fund whatever enrolment a college achieved at the specified per student rate. At another extreme, given a predetermined system operating grant, as is now the case, annual enrolment maxima could be established for each college, such that no college achieving its enrolment ceiling would fall below the agreed upon floor for per student funding. If public resources were more plentiful, the first approach would be relatively simple to implement. But, the expected limitations on the availability of public resources for the college system, combined with the expected increases in demand for places in the college system, lead us to conclude that this approach is not feasible. Some version of the second approach is more realistic, although developing implementation mechanisms will be a fairly complex problem.

What is important from our perspective is the principle that funding per student should not fall below some specified level. Adopting this principle will focus attention on quality and be a step toward ensuring an acceptable level of quality. The downside is that accessibility may, at some time, need to be curtailed.[22] We believe, however, that if qualified applicants are turned away from a quality system, ways will be found to increase the system's revenues, through additional injections of public or private funds or both. 'Access without success,' which would be much more likely if this funding principle were not adopted, would, in the long run, only lead to less accessibility as both government and students increasingly became disenchanted with the performance of the college system.

For this recommendation to be more fully and effectively implemented, the programs currently funded by the Ministry of Skills Development must be considered. Ideally, it would also be desirable to address programs funded by the federal government, but the political challenge in so doing would be enormous, and for that reason, federal revenues have not been addressed. Because of the cyclical demand for skills training and the current funding mechanisms employed for programs funded through MSD, the problem of unstable program funding exists with these programs as well. No long-term commitment to funding exists, and training programs to meet identified governmental priorities are often launched on very short notice, then cancelled or significantly reduced in scope with equally short notice. Recent examples include programming in the areas of Futures and Ontario Basic Skills. This lack of long-range commitment to funding of a specific program, and the tendency to turn programming on and off on extremely short notice, produce the very same problems of instability of funding described in relation to MCU-funded, post-secondary programs. In some ways, the problem is more acute. The option of system-managed enrolment to mitigate the unstable funding is not a strategy that presently can be employed, because these programs are not funded on a formula basis. The college system is totally at the mercy of the vagaries of line account funding for these types of programs. We believe that this problem is equally important to the overall issue of quality, access, and funding, and an improved system of funding these activities should be developed and implemented.

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[22] . If some limitations on accessibility were required, these should occur in a planned and possibly selective way. While open to debate, it may, for example, be more appropriate to limit accessibility to the more advanced college programs or very specific vocational training programs, while maintaining accessibility to preparatory and basic programs. In this way one could ensure opportunities for those requiring foundation skills, skills which are necessary if additional skills are to be acquired.

Summary

How to respond to quality - access - funding trade-off(s) is a question which the college system has had to deal with in the past. It is a question which likely will be 'front and centre' in the future. Study Team 1 believes that implementing the recommendations offered here will greatly improve the system's capacity to effectively respond to the trade-offs. The recommendations, while not comprehensive in scope, are meant to begin to address the need to:

- gain a better understanding of the nature of the trade-offs; and to develop system strategies for responding to the trade-offs. (Rec. 1)
- increase the allocation of resources — public and private — to the college system. (Rec. 2 and Rec. 3)
- improve the accessibility of the part-time learner to college programs; and to improve the likelihood of success of underprepared learners embarking upon post-secondary programs. (Rec. 4)
- bring to the forefront (a) the importance of determining what level of resources is required to provide an acceptable quality of education, and (b) the importance of ensuring that college revenues per student are sufficient to provide this education. (Rec. 1 and Rec. 5)

Appendix: The College System—An Empirical Snapshot

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1. College Students

Statistical Profile of Full-Time, Post-Secondary, College Students (Project #1)

- Full-time post-secondary (FTPS) students account for about 58% of total full-time equivalent enrolment in the college system. Skills training sponsored by the Federal government and the Ontario Ministry of Skills Development accounts for another 27% of total enrolment, while the remaining 15% consists of students studying on a part-time basis.

- System-wide data on student characteristics (e.g., education, age, and last activity prior to enrolling in college) is available for full-time post-secondary students but not for other types of students.

Gender and Age

- Females in 1987 accounted for about 54% of FTPS enrolment; this figure has increased by about 2 percentage points since 1976. Females aged 17-19 are almost 50% more likely to be enrolled in college than their male counterparts.

Participation Rates (% of Selected Population Enrolled as FTPS Students) by Age and Gender, 1987

Age	Male	Female
17-19	6.3	9.4
20-24	5.4	5.1
25-29	0.8	0.9
30-34	0.3	0.6
35+	0.1	0.1

- Between 1976 and 1987 the participation rate of 17-19 year olds increased 36.4%; and the participation rate of 20-24 year olds increased 72.1%, while the participation rate of those aged 25 and over increased by more than 100%.

- The average age of FTPS students is rising. In 1976, those aged 20 and over accounted for 52% of FTPS enrolment; by 1987, this figure had risen to almost 64%.

Distribution (%) of FTPS College Students by Selected Age Groups

Age	1976	1987
17-19	48.0	36.2
20-24	41.6	47.3
25+	10.3	16.4
Total	100.0	100.0

Educational Background of FTPS Students

- In 1987, 64% of FTPS students had completed Grade 12 or part of Grade 13; 15% had completed Grade 13 and 14% had completed or had some other post-secondary education (those with a university background accounted for about one-half of this latter group).

- The proportion of college students with Grade 13 as their highest previous level of educational attainment decreased almost 4 percentage points between 1976 and 1987, while the proportion with Grade 12 or part of Grade 13 increased 3 percentage points over this period.

Latest Previous Activity of FTPS Students

- In 1987, 65% of college students had been full-time students immediately prior to enrolling in college and another 27% had been in the labour force. In 1976, the comparable figures were 68% and 26%, respectively.

Distance of FTPS Students from 'Home'

- In each year over the period 1976 to 1986, about one-third of college students reported a permanent address which was more than 25 miles from the campus they were attending.

Colleges, Socio-economic Status, and Occupational Attainment

- Anisef, Ashbury, and Turrittin in their Ontario study, "Educational Diversity and Occupational Attainment: Are Community Colleges Fulfilling their Promise?," find that:

> "Persons choosing to enter universities or community colleges are different with respect to personal and socio-economic origins. College students are lower in socio-economic status, live in more rural parts of Ontario and come from larger families. University students enter with higher secondary school grades, are bolstered by more encouragement from family and non-family members to pursue studies beyond high school, are more confident of their academic abilities, and develop higher educational and occupational expectations while in their formative high school years."
>
> "Average job status score differences between university and college entrants appear to grow larger as one moves from earlier to later stages of career attainment. This increasing gap in job status returns would appear to support the class reproduction perspective offered by radical sociologists, the argument that postsecondary institutions serve to sort their students into particular levels of the class structure."
>
> "While Canadian community colleges may provide a mechanism for transmitting intergenerational inequalities based on class, our analysis demonstrates that the present job status returns to female college entrants are more favorable than to their university counterparts. What we have here are postsecondary educational institutions that recruit particular populations, populations which are not passive recipients of educational programs, but which participate in selection in ways that often affirm traditional and differential gender and class expectations regarding education and occupational goals. In the process some social and occupational mobility both upward and downward is possible."

Related Background Documents Available at Council of Regents

College Affairs Branch, Ontario Ministry of Colleges and Universities, Statistical Profile of Ontario Colleges of Applied Arts and Technology, 1989.

Paul Anisef, Fredrick D. Ashbury, and Anton H. Turrittin, "Educational Diversity and Occupational Attainment: Are Community Colleges Fulfilling their Promise?," 1989.

Determinants of College Participation Rates in Ontario (Project #2)

Findings

- There is considerable uncertainty about the future levels of college post-secondary enrolment. On the one hand, the population aged 17-24 will decrease in number by almost 10% between 1987 and 2000; and almost 85% of the students in college post-secondary programs fall within this age range. On the other hand, age-specific participation rates (the percentage of a given age group enrolling in college) have varied considerably over time, with the long-term trend being upward; in recent years, however, participation rates of 17-24 year olds have stabilized or even decreased slightly. In addition, between 1987 and 2000, the population aged 25-54 is projected to increase by almost 1,000,000 or 25%, and the participation rate of this group has been increasing.

- While population projections to the year 2000 of those 17 and over are fairly reliable in that future members of this group have already been born, projections of their college participation rates are much more problematic. In an effort to gain some insight into future enrolment trends, David Foot, of the University of Toronto, was asked to undertake an analysis of factors affecting college participation rates and then, if appropriate, to use the results of the analysis to project full-time, college post-secondary enrolment to the year 2000.

- Foot and MacNiven estimated the impact on college participation rates of changes in: (i) real personal disposable income per capita; (ii) real college fees; and (iii) unemployment rates. Economic theory suggests that *increases* in:
    - Real per capita income will *increase* the demand for education; increases in real per capita income increase the individual's ability to finance educational expenditures and also may indicate that the returns to investments in education are increasing.
    - Real student fees will *decrease* the demand for education because such increases raise the relative price of education or the costs of the educational investment.
    - Unemployment rates, all other things being equal, will *increase* the demand for education because higher unemployment rates reduce the opportunity costs of education.

- Their estimation results, based on analyses of historical data covering the periods 1968 to 1987 and 1977 to 1987, are statistically significant and strongly support the economic theories underlying the explanatory model of participation rates described above. In addition, the results indicate that college enrolment is very responsive to income changes, with the elasticity increasing with age; enrolment is, on the other hand, not very responsive to fee changes, with younger students, however, being more responsive to fee changes than older students. The unemployment rate's impact on enrolment, while also statistically significant, does not appear to differ much from one age group to another. Overall the results suggest that the medium to long term trend in participation rates is strongly influenced by the trend in real per capita income, while year to year fluctuations in participation rates about the long run trend are affected by unemployment rates.

- With these results, Foot and MacNiven proceed to project participation rates to the year 2000, using projections of the explanatory variables and the estimated impacts of changes in these explanatory variables on participation rates. In terms of the explanatory variables it is assumed (projected) that: (i) real personal disposable income per capita will, on average, increase 1.1% annually during the 1990s (between 1967 and 1987 average annual growth was 2.6% and during the 1980s it has averaged 1.6%); (ii) *real* college fees will remain at the current level; and (iii) a gradual decline in unemployment rates of approximately 3 percentage points will occur over the 1990s. The per capita income and unemployment rate projections, supplied to Foot by the University of Toronto, essentially describe a "macroeconomy that grows through the early 1990s, suffers a mild growth 'pause' in 1992 and thereafter grows steadily at a somewhat slower rate." (Foot/MacNiven, p.24)

- Given the projections of the explanatory variables, Foot and MacNiven find that participation rates will increase throughout the projection period, with the exception of 1992.

College Participation Rates by Age Group and Sex: 1988 Actual and 2000 Projected

Year	17-19 Males	17-19 Females	20-24 Males (%)	20-24 Females	25+ Males	25+ Females
1988	6.18	9.22	5.30	5.02	0.20	0.29
2000	7.53	10.56	7.43	7.14	0.35	0.44

- In turn, the projections of participation rates when combined with demographic projections yield the enrolment projections labelled 'Foot' in the following table. For comparative purposes 'Benchmark' projections have been included in this table; the Benchmark projections assume that age-specific participation rates will remain at their current (1988) levels throughout the projection period and thus reflect solely the impact of changing demographics. Both sets of projections use a common set of population projections (i.e., the Ontario Ministry of Treasury and Economics 'reference scenario').

Full-Time, Post-Secondary College Enrolment Projections, 1989-2000

Year	Benchmark Projection	% Change	Foot Projection	% Change
(Actual) 1988	95043	-	95043	-
1989	95857	0.9	94732	-0.3
1990	96008	0.2	95328	0.6
1991	95088	-1.0	92766	-2.7
1992	93721	-1.4	91796	-1.0
1993	92703	-1.1	95414	3.9
1994	92060	-0.7	97926	2.6
1995	91346	-0.8	99093	1.2
1996	90509	-0.9	101584	2.5
1997	90042	-0.5	106078	4.4
1998	90068	0.0	111772	5.4
1999	90503	0.5	117316	5.0
2000	90987	0.5	123545	5.3

- Both sets of projections show fairly stable enrolment in the early years of the projection period, although enrolment by 1992 is projected to be less than in 1988. Beginning in 1993 the two sets of projections move in quite different directions. The Benchmark projections show moderate enrolment declines, with enrolment in the year 2000 being almost 3% less than in 1992. The Foot/MacNiven projections show significant enrolment increases, with enrolment in the year 2000 being almost 35% more than in 1992.

Issues/Implications

- Foot and MacNiven caution the reader that these increases in participation rates may not occur if the projected growth in the economy does not occur and, most importantly, if colleges do not respond adequately to the needs of the 'older' (25+) student. This population group is projected to contribute about one-half the increase in total enrolment, with their share of college post-secondary enrolment projected to increase from 17% in 1988 to 25% in 2000.

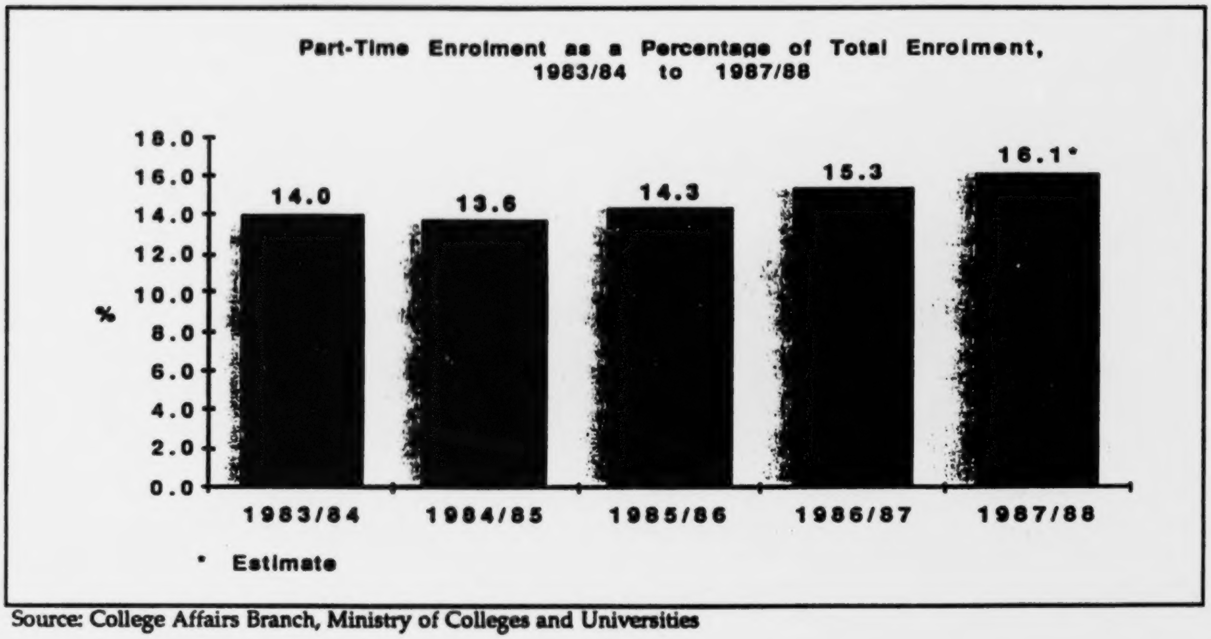
- In concluding their paper, Foot and MacNiven state: "This educational challenge of an aging society will need to be a cornerstone of the community college system in Ontario if it is to realize the full potential of the educational demands reviewed in this study." (p.28)

Related Background Documents Available at Council of Regents

David Foot and Maia MacNiven, The Determinants of Enrolment Rates and Enrolments in Ontario Community Colleges, 1989.

Continuing Education Students: Profiles and Trends (Project #4)

Part-Time Enrolment Growth



Source: College Affairs Branch, Ministry of Colleges and Universities

- The 1980s have witnessed growth spurts in both full- and part-time college enrolment. However, the growth rate of part-time enrolment has been larger than that of other major enrolment categories; for example, from 1979 to 1986, full-time post-secondary activity grew 33%, while part-time activity grew 54%.

- In 1987-88, part-time activity constituted 16.1% of total college full-time equivalent enrolment, while in 1983-84 it accounted for 14% of total enrolment.

- When part-time activity is broken down, one finds that non-funded activity (general interest courses and vocational courses for which an external organization controls the entry of students and/or the course completion standards) grew 28% between 1979 and 1986 , while funded part-time activity (vocational courses for which the college controls the 'entry and exit' of students) grew 64%. Non-funded part-time enrolment accounted for about 22% of total part-time enrolment in 1987-88.

- Four major trends in enrolment activity are noted:

- Full-time post-secondary growth has stabilized in the latter half of the decade.
- Part-time funded activity has demonstrated continued yearly high growth levels.
- Part-time non-funded activity, which exhibited large growth in the early 1980s, has been increasing only moderately in recent years.
- Regional shares of part-time funded activity have been quite stable during the 1980s, with the one exception being the Northern region. In 1980-81 the Northern region accounted for 9.1% of provincial part-time funded activity; by 1987-88 its share had fallen to 7.6%.

General Profile of Part-Time Students at the Colleges

- The typical part-time student could be male or female (almost equal probability), would be in the 25 to 44 age range and would most likely be taking vocational courses. Participation in part-time activity tends to be higher, the higher one's educational attainment.

Barriers to Part-Time Learning

- One of the barriers most often cited by students is the general lack of time to participate in part-time learning. The pressures exerted by a number of situational circumstances (family, work, recreational, etc.) prevent many students from enroling or fully enjoying their studies. College administrators perceive that students face institutional barriers such as class scheduling, course length, and length of time to complete a certificate program.

Exceptional Practices Occurring in the College System

- Several types of activities/teaching modes have been designed in an effort to better meet part-time learner needs, including: the Durham Alliance for Training and Education in which a consortium of four post-secondary institutions (three universities and Durham College) have formed a partnership to allow the offering of a broader range of courses in Durham's area and the transferring of credits among the institutions; the offering of university courses at college sites; the use of distance education delivery modes; the targeting of certain groups (e.g., seniors); the scheduling of courses to meet the needs of shift workers; the provision of facilities such as student lounges; and convocations and newsletters.

Issues/Implications

- Between 1987 and 2000, the population aged 25-54 is projected to increase 25%. Thus, even without increases in participation rates, one can expect significant increases in the demand for part-time courses. Will the colleges have sufficient physical space to meet the demand, particularly the demand for instruction in the traditional evening hours? Will colleges be able to find ways to provide part-time instruction in 'non-traditional' hours to meet the needs of, for example, shift workers and employed parents with young children? If yes, participation rates may increase significantly, further increasing part-time enrolment.

- If resources (e.g., space) constrain the ability of colleges to meet part-time demand, should colleges restrict their general interest courses to permit the offering of more vocational courses?

- How can (should) a student's life experiences be translated into academic credit?

- What kinds and quality of services/courses will part-time students expect or demand? Is the content of part-time courses presently geared to the needs of adult learners or is it patterned after that developed for the 18 year old day student attending college? Should the content, method of presentation ... be different?

- Should there be parity between part-time and full-time fees or should part-time fees be increased relative to full-time fees?

- If pay equity between part-time and full-time teachers is achieved, who will (should) bear the costs — the part-time student, the taxpayer, both?

- Is there a need to clearly define the respective roles of high schools, colleges, and universities in the area of continuing education? Or, have, in some sense, their roles been 'naturally' defined over time, resulting in both good access and little wasteful competition?

- Does a partnership such as the Durham Alliance provide a good model for enhancing accessibility in locations not served by the full range of post-secondary institutions?

Related Background Documents Available at Council of Regents

Teresa Karolewski, Mini-Project #4 - Continuing Education in Ontario's Colleges: Student Profiles, Barriers and Exceptional Practices, 1989.

Geographic Mobility of Full-Time, Post-Secondary, College Students (Project #6)

Findings

- One-third of college students, or about 31,000 students, are attending a college campus which is more than 25 miles from their permanent address (see Table 1). There was little variation in this figure over the period 1976 to 1986. Up to 3.000 of these students are students from outside Ontario, with as many as 1,200 being from Quebec.

- Colleges with the highest percentage of enrolment consisting of students with a permanent address more than 25 miles from campus are: S.S. Fleming (66%); Georgian (63%); Canadore (54%); and Northern (52%). In the case of S.S. Fleming College, the presence of the highly specialized Frost Campus in Lindsay (mainly natural resource programs) contributes to the high percentage of 'non-local' enrolment.

- Colleges with the lowest percentage are: Niagara (18%); Centennial (20%); St. Clair (20%); Durham (21%); Seneca (23%); and George Brown (24%).

- For the most part, colleges in the North have a relatively high percentage of enrolment consisting of students with a permanent address more than 25 miles from campus. This is largely due to the greater distances residents of the North live from a college campus and not due so much to students moving into the North to attend college. A relatively low percentage of enrolment at Metro Toronto colleges consists of students with a permanent address more than 25 miles from campus.

- Nevertheless, a significant percentage of students from outside the Toronto area attend a Toronto area college (Centennial, George Brown, Humber, Seneca, Sheridan). With the exception of students from the Ottawa-Kingston area, at least 5% of each county's college students attend a Toronto area college (see Table 2.)

Table 1
College Students With Permanent Address More Than 25 Miles From Campus

College	Location	1986 Enrolment	# and % of Students with Permanent Address > 25 Miles from Campus	
			#	%
Algonquin	Ottawa	8,199	3,069	37.4

Cambrian	Sudbury	2,699	998	37.0
Canadore	North Bay	2,078	1,127	54.2
Centennial	Scarborough	6,480	1,280	19.8
Conestoga	Kitchener	3,470	1,025	29.5
Confederation	Thunder Bay	2,398	1,072	44.7
Durham	Oshawa	2,588	554	21.4
Fanshawe	London	5,920	2,877	48.6
George Brown	Toronto	6,369	1,512	23.7
Georgian	Barrie	2,404	1,588	66.1
	Orillia	567	331	58.4
	Owen Sound	388	184	47.4
	(Total)	3,359	2,103	62.6
Humber	Etobicoke	7,194	2,152	29.9
Lambton	Sarnia	1,166	330	28.3
Loyalist	Belleville	2,125	1,000	47.1
Mohawk	Hamilton	6,357	1,727	27.2
Niagara	Welland	3,368	616	18.3
Northern	South Porcupine	665	298	44.8
	Kirkland Lake	387	207	53.5
	Kapuskasing	59	14	23.7
	Moosonee	69	69	100.0
	Haileybury	114	88	77.2
	(Total)	1,294	676	52.2
St. Clair	Windsor	3,101	570	18.4
	Chatham	530	153	28.9
	(Total)	3,631	723	19.9
St. Lawrence	Brockville	594	228	38.4
	Kingston	2,230	878	39.4
	Cornwall	980	349	35.6
	(Total)	3,804	1,455	38.2
Sault	Sault Ste. Marie	1,374	571	41.6
Seneca	North York	9,007	2,042	22.7
Sheridan	Oakville	6,425	1,775	27.6
S.S. Fleming	Peterborough	2,329	1,242	53.3
	Lindsay	1,194	1,098	92.0
	(Total)	3,523	2,340	66.4
	System Total	**92,828**	**31,024**	**33.4**

Source: College Affairs Branch, MCU, Statistical Profile of Ontario Colleges of Applied Arts and Technology, 1989.

Table 2
Proportion of Each County's Students Enrolled at Selected Colleges, 1987

County	Primary College*	% of County's Students Attending Primary Colleges	% of County's Students Attending 5 Toronto Colleges**	% of County's Students Attending Remaining Colleges	Total
North					
Algoma	Sault	54.1	10.2	35.7	100.0
Cochrane	Northern	49.2	6.9	43.9	100.0
Kenora	Confed.	70.1	7.0	22.9	100.0
Manitoulin	Cambrian	70.4	9.3	20.3	100.0
Nipissing	Canadore	65.4	5.9	28.7	100.0
Parry Sound	Canadore	31.4	21.0	47.6	100.0
Rainy River	Confed.	71.0	6.4	22.6	100.0
Sudbury	Cambrian	52.5	7.0	40.5	100.0
Sudbury R. M.	Cambrian	75.2	7.1	17.7	100.0
Thunder Bay	Confed.	82.8	5.8	11.4	100.0
Timiskaming	Northern	44.1	8.0	47.9	100.0
East					
Frontenac	St. Lawrence	78.5	4.3	17.2	100.0
Lanark	St. Lawrence	35.3	9.4	55.3	100.0
Leeds/Gren	St. Lawrence	60.8	5.8	33.4	100.0
Lennox/Add	St. Lawrence	45.3	6.3	48.4	100.0
Ottawa/Carl	Algonquin	89.1	4.3	6.6	100.0
Prescott/Russ	Algonquin	64.0	2.4	33.6	100.0
Renfrew	Algonquin	54.8	8.6	36.6	100.0
Stor/Dun/Glen	St. Lawrence	66.1	5.0	28.9	100.0
Southwest					
Elgin	Fanshawe	57.6	12.2	30.2	100.0
Essex	St. Clair	86.2	5.1	8.7	100.0
Huron	Fanshawe	33.6	14.2	52.2	100.0
Kent	St. Clair	49.4	8.5	42.1	100.0
Lambton	Lambton	58.0	7.8	34.2	100.0
Middlesex	Fanshawe	77.8	8.0	14.2	100.0
Oxford	Fanshawe	45.7	16.5	37.8	100.0
Perth	Fanshawe	36.8	16.0	47.2	100.0
Waterloo	Conestoga	64.0	17.7	18.3	100.0
Wellington	Conestoga	41.4	31.5	27.1	100.0
Niagara					
Brant	Mohawk	49.4	19.3	31.3	100.0
Hald/Nor	Mohawk	37.6	24.4	38.0	100.0
Niagara	Niagara	61.7	15.7	22.6	100.0
Wentworth	Mohawk	74.0	17.2	8.8	100.0
E. Central					
Durham	Durham	59.4	27.0	13.6	100.0
Haliburton	S.S. Fleming	39.7	38.4	21.9	100.0

... continued

County	Primary College*	% of County's Students Attending Primary Colleges	% of County's Students Attending 5 Toronto Colleges**	% of County's Students Attending Remaining Colleges	Total
Hastings	Loyalist	67.0	8.3	24.7	100.0
Northumber	S.S. Fleming	28.3	19.7	52.0	100.0
Peterborough	S.S. Fleming	76.5	10.6	12.9	100.0
Princ Edward	Loyalist	57.8	13.9	28.3	100.0
Victoria	S.S.Fleming	56.4	16.7	26.9	100.0
Central					
Bruce	Georgian	34.9	19.5	45.6	100.0
Grey	Georgian	39.0	29.6	31.4	100.0
Muskoka	Georgian	38.5	30.7	30.8	100.0
Simcoe	Georgian	63.4	24.7	11.9	100.0
Toronto					
Dufferin	Sheridan	31.9	64.6	35.4	100.0
Halton	Sheridan	54.7	72.2	27.8	100.0
Metro Toronto	Seneca	34.8	96.1	3.9	100.0
Peel	Sheridan	51.9	94.0	6.0	100.0
York R. M.	Seneca	47.7	90.1	9.9	100.0
System Total			38.5		

* The primary college is the one attended by the largest percentage of students.

** The five Toronto colleges are: Centennial, George Brown, Humber, Seneca, and Sheridan.

Source: Nicholas Yarmoshuk, Geographical Mobility of Ontario College Students, 1983-87, 1989.

% of County's Students Attending a Toronto Area College	Number of Counties
< 5.0	3
5.0 to 9.9	19
10.0 to 14.9	5
15.0 to 19.9	9
20.0 to 24.9	3
25.0 to 29.4	2
30.0 to 34.9	1
>35	6

- About 95% of students from Peel, York R.M., and Metro Toronto attend a Metro Toronto college.
- Students from certain areas in the north appear to enrol in disproportionate numbers at Algonquin College in Ottawa. For example, 11% of students originating from the Cochrane area attended Algonquin in 1987.

Issues/Implications

- While the data do no not allow one to determine what proportion of the students attending a campus more than 25 miles from their permanent address are commuting from their permanent address and what proportion have actually moved in order to attend college, it would appear that there are significant numbers of students who move when attending college.
- College students display greater geographic mobility in terms of their selection of college than one might have expected given the emphasis placed on '**community**' when colleges first opened.
- The mobility of students would appear to be affected by factors such as: i) the 'attraction' of Toronto, in terms of future employment prospects, range of programs available, and the city itself ; (ii) the 'uniqueness' of certain programs offered at some colleges; and (iii) the availability of instruction in the french language.
- Recent decisions by several colleges to build student residences should increase the geographic mobility of college students

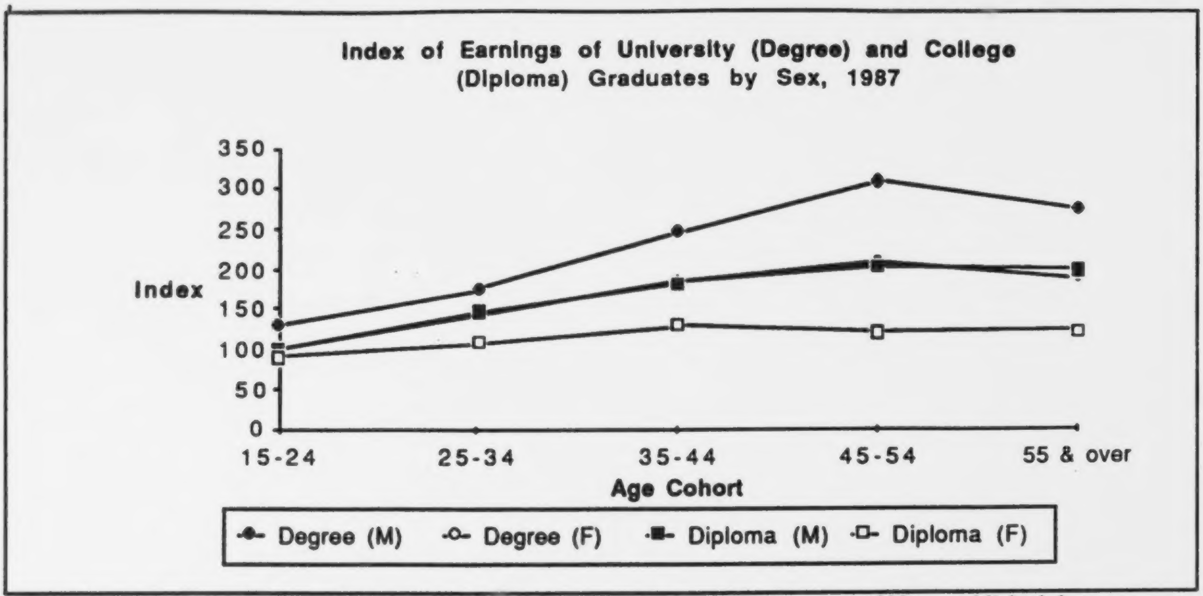
Related Background Documents Available at Council of Regents

Nicholas Yarmoshuk, Geographical Mobility of Ontario College Students, 1983-87, Sir Sandford Fleming College of Applied Arts and Technology, 1989.

Employment of College Graduates: A Comparison of College and University Graduates' Earnings and Employment in Ontario (Project #18)

Findings

- The chart shows the age-earnings curve of college and university graduates by sex and reflects the commonly held notion that both sex and educational attainment affect earnings. The chart is based on earnings data of full-year, full-time workers in 1987.
- Male university graduates have higher starting salaries than other graduates and the difference increases with age until about age 55. Males with college diplomas and females with university degrees have very similar age-earnings profiles; for those less than 25 years old, members of both groups tend to earn about 77% of that of their university male counterparts; in the age range 45 to 54 they earn about 60%. Females with college diplomas have the lowest earnings upon graduation and their earnings exhibit the least growth with age; female college graduates under 25 years old earn about 70% of that of male university graduates of comparable age; in the age range 45-54 the comparable figure is 40%.



Source: Statistics Canada, Household Survey Division, Survey of Consumer Finances, 1988, unpublished data.

- 14% of 1982 college graduates who were working in 1987 held jobs which were unrelated to their area of study; for university graduates at the bachelor degree level the comparable figure was 13%. While these figures are very similar, the data indicate that college graduates are more likely (almost 50% more likely) to find directly related employment within the first year or two after graduation than university graduates.

Issues/Implications

- College graduates appear to do quite well in terms of employment and earnings immediately upon graduation. However, relative to university graduates, college graduates do not experience as much growth in earnings over their careers. This slower growth may in part be due to the fact that certain occupations are necessarily characterized by fewer opportunities for career advancement and these may be occupations for which colleges are the main suppliers of trained labour. It may also be the case, however, that college graduates, on average, are not viewed by employers as being as suitable as university graduates for on-the-job training investments.

- As we enter the 21st century, the increasing scarcity of labour, combined with changing/advancing methods of production, will likely mean that employers will be increasingly seeking employees who 'know how to learn.' If this occurs and if college graduates are not viewed as good risks for on-the-job training investments, then the earnings differentials between college and university graduates may further widen, and real economic growth will be less than it might have been.

Related Background Documents Available at Council of Regents

Craig McFadyen, Mini-Project #18 - The Employment of College Graduates: A Comparison of College and University Graduates' Earnings and Employment in Ontario, 1989.

Post-Secondary Student Attrition in Ontario's College System (Project #17)

Findings

- Attrition rates for those entering the college system from 1976 to 1984 were examined. The attrition rates of the 1982 college entry cohort which are shown in the following table are typical of the rates throughout this period.

Attrition Rates by Division and Duration of Program
Fall, 1982, Entry Cohort

	1 Year Programs	2 Year Programs	3 Year Programs	Total
Applied Arts	35.1	40.6	54.7	43.5
Business	30.4	45.1	47.6	44.4
Health	18.4	22.7	22.9	21.8
Technology	23.6	46.1	46.6	45.6
Total	26.8	42.8	44.0	41.7

Source: Ontario College Information System

- For those entering the college system during the period 1976 to 1984, it is estimated that 43% did not graduate, at least not before December, 1988.

- Attrition tended to be higher among:

  - Males

    Males were 40% more likely to withdraw than females.

  - Those who have not completed Grade 13

    Grade 12 graduates were 39% more likely to withdraw than Grade 13 graduates

  - Those attending larger colleges

    Students attending larger colleges were about 10% more likely to withdraw than students attending smaller colleges.

  - Those enroled in applied arts, business, and technology programs (i.e., non-health science programs)

    Students in these divisions were twice as likely to withdraw as students in health sciences.

  - Those enroled in two and three year programs

    Attrition rates for students in two and three year programs tended to be about 60% higher than for students in one year programs.

  - Those in their first year of studies

    For students in two year programs, 72% of withdrawals occurred prior to second year; for students in three year programs about 60% of withdrawals occurred prior to second year.

  - Those students with at least one parent with some post-secondary education

    Attrition rates of students with parent(s) with post-secondary education tended to be higher than those of students from families with no post-secondary education, although *the amount by which these rates differed from one cohort to another varied considerably, and in some years the difference was relatively insignificant.*

Note: These findings, taken from the study (1983) of R. A. Stoll and E. Scarff on student attrition in Ontario's colleges, while suggestive, should not be used to draw explicit conclusions about the causes of attrition.

- Attrition rates in the Ontario college system appear to be comparable to those in the United States, where college attrition rates typically fall within the range of 45 to 50%. (See Stoll and Scarff study.)

- While there is not a definitive study of the causes of attrition in Ontario's colleges, academic 'underpreparedness' of students was cited as a major factor contributing to attrition in an ACCATO survey (1988) of student retention strategies of Ontario's colleges.

Issues/Implications

- While attrition rates in Ontario may be no higher than those in other jurisdictions and not all attrition should be viewed as 'bad,' several issues arise given the high rates of attrition, namely:
  - Can attrition rates be lowered in a cost-effective manner without resorting to increases in admission standards? If no, should accessibility (entry to college programs) be sacrificed (limited) in the name of 'efficiency?'
  - Assuming attrition rates can be reduced in a cost-effective manner without reducing accessibility, what are the key elements of an attrition reduction strategy?
    - greater articulation between colleges and secondary schools?
    - more remedial and preparatory programs in the colleges?
    - more counselling services in the colleges?
    - other elements?
  - What explains the lower rates of attrition in Health Science programs?
    - enrolment quotas in Health Science programs resulting in higher admission standards?
    - occupational specificity of training?
    - other factors?

Related Background Documents Available at Council of Regents

Howard Rundle, Mini -Project #17 - Student Attrition in the College System, 1989.

George Radwanski, Ontario Study of the Relevance of Education, and the Issue of Dropouts, Ontario Ministry of Education, 1988.

R. A. Stoll and E. Scarff, Student Attrition from Post-Secondary Programs at the Ontario Colleges of Applied Arts and Technology, Ontario Ministry of Colleges and Universities, March, 1983.

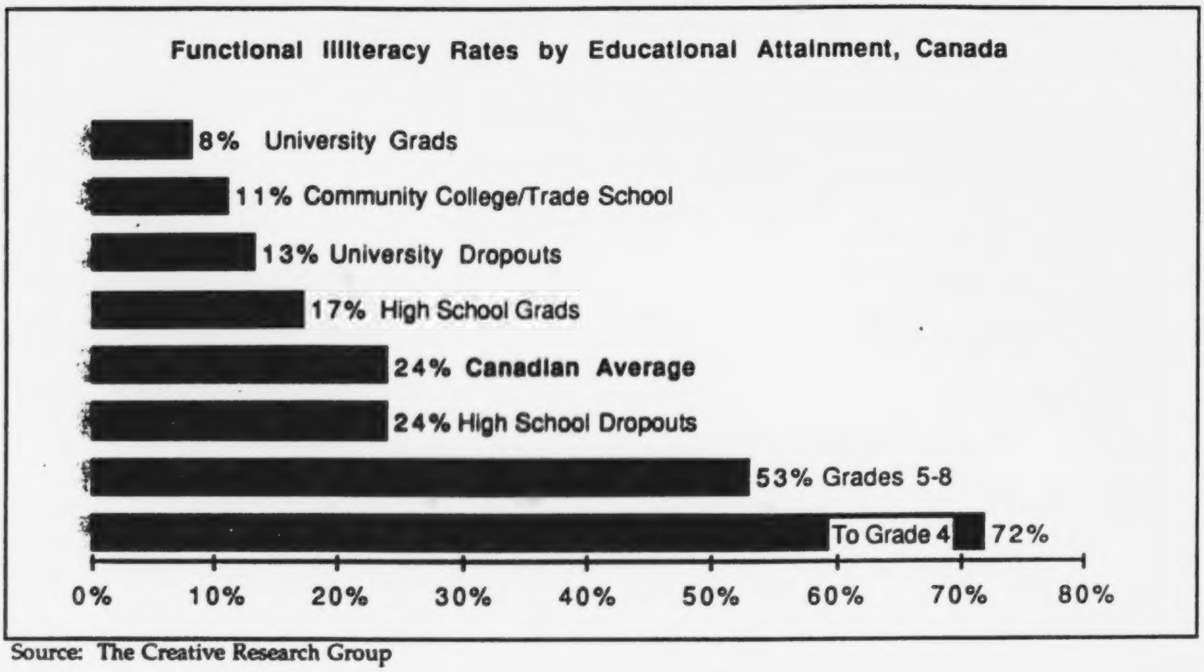
Survey of Student Retention Strategies, ACCATO, 1988.

Literacy and the Colleges (Project #28)

Findings

- The Southam News study, Literacy in Canada " A Research Report" (1987), concluded that one in six working Canadians is functionally illiterate, and 17% of high school graduates are functional illiterates.

- Immigrants to Canada are more likely to be illiterate (35%) than native-born Canadians (22%). However, the first generation offspring of Canadian immigrants achieve literacy levels similar to or better than second and subsequent generations of Canadians. (Southam)



Source: The Creative Research Group

- While a systematic study of literacy levels of entrants to college post-secondary programs has not been undertaken, increasingly colleges are indicating that a significant number of entrants have less than adequate literacy skills.

- Currently MCU does not fund colleges for a specific preparatory semester for post-secondary students who lack the basic literacy and numeracy skills required to complete their programs.

- In the fall of 1986 the Government of Ontario launched its Plan for Adult Basic Literacy in which it encouraged four ministries (MSD, MCU, MOE, and Citizenship and Culture) to work together in boosting Ontario's literacy level. However, concerns have been expressed that competition for scarce funds has limited the extent to which these agencies and others are able (willing) to cooperate, and better coordination of efforts remains elusive.

Issues/Implications

- Should colleges as a matter of course administer literacy and numeracy tests to post-secondary applicants? Would, for example, new immigrants view such tests as being discriminatory?

- What should be the colleges response to applicants to post-secondary programs who do not possess the necessary literacy and numeracy skills, particularly if these applicants are high school graduates? Should the colleges offer admission conditional on the student upgrading these skills or should the offer be unconditional?

- From where should college students/applicants requiring assistance seek assistance? Should it be the colleges who provide remedial programs? The high schools? Voluntary organizations?

- If colleges were to provide remedial literacy and numeracy programs to high school graduates who have applied for admission to post-secondary programs, what would be the resource requirements?

- In addition to post-secondary students, what should be the role, if any, of colleges in literacy and numeracy training of adults? Should it extend beyond ESL programs?

Related Background Documents Available at Council of Regents

Bob Bernhardt, Mini -Project #28 - Literacy and Numeracy Skills of Students Entering College Programs, 1989.

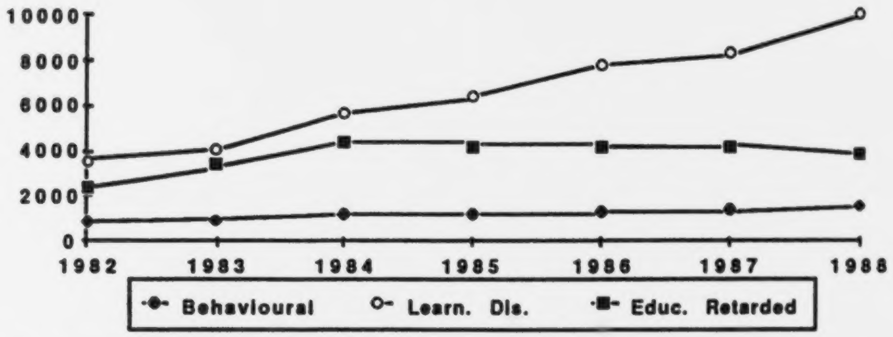
Colleges and Special Needs Students (Project #11)

Findings

- Section 15 of the Canadian Charter of Rights and Freedoms and the Ontario Human Rights Code (Sections 10, 16, and 23) ensure the rights of all citizens as fully enfranchised members of society; and by the introduction of Bill 82 (the Education Amendment Act), the Government of Ontario has provided legislation designed to increase access by exceptional students to publicly-funded secondary school education in Ontario.

- Since the enactment of Bill 82 in 1985, there has been a significant increase (more than 20%) in the number of public secondary school students *identified* as being exceptional. Of the roughly 20,000 exceptional pupils, aged 16 to 20, attending public secondary schools in Ontario in 1988, almost 50% were learning disabled; about 20% were gifted; 18% were educable retarded; and 9% were behavioural; the remaining students were identified as being autistic, hearing impaired, speech and language impaired, visually impaired, orthopedic, or multiple handicapped.

Enrolment in Ontario Public Secondary Schools by Selected Areas of Exceptionality, Age Group 16 to 20, 1982 to 1988



Source: Table 4.80, Secondary School September Report

- While applications from exceptional students for places in the college system undoubtedly will increase, the impacts of Bill 82 and other factors on this demand are difficult to forecast with any precision. Demand for college places will be influenced by the range of college programs and support services which are readily accessible to special needs students and the range of services provided by other suppliers of training.

- The barriers to access most frequently identified by special needs students are physical and negative attitudes. In addition, financial and program delivery barriers are experienced. Physical barriers range from the lack of ramps or elevators to the absence of devices for access of the visually and hearing impaired. As well, limited availability of human resources such as counsellors, tutors, and interpreters decreases access. Lack of awareness by educational staff of the needs of exceptional students and of teaching strategies for meeting these needs adversely affect their attitude toward special needs students. Financial barriers for special needs students seem to range from simply inadequate student assistance in total (particularly for special needs students attending on a part-time basis) to lengthy time delays in approval of applications for assistance to the multiplicity of government departments who may be involved in providing one form of assistance or another. Program delivery barriers include a lack of availability of part-time programs or more generally a lack of programs which permit students to proceed at a pace appropriate to their capabilities, and a lack of flexibility in examination methods.

- The college system and the government are making efforts to reduce some of these barriers. For example, the College Committee on Special Needs in cooperation with the Association of Colleges of Applied Arts and Technology of Ontario has produced the Handbook for Success: Special Needs (1988), a resource which may be used by college personnel involved with special needs students; and the Ministry of Colleges and Universities has targeted funds ($3.5M annually at present) to support the provision of special needs services at all colleges; with these funds college are establishing a Special Needs Offices to coordinate services and accommodations for special needs students — such services will include pre-admisssion counselling and job placement assistance. In addition, colleges are involved in the Special Education Pilot Project with Brock University; this project is aimed specifically at training special needs counsellors and faculty at the post-secondary level.

Issues/Implications

- Given Bill 82, exceptional secondary school students will increasingly have higher and higher expectations of the college system.

- Given that the colleges, community groups, private trainers, and industry all provide post high school vocational training to special needs students, what should be the colleges' role? What partnerships should be developed between colleges and industry to benefit special needs students? Given the many Ministries involved in providing services to those with special needs, how can their efforts be better coordinated?

- For which programs and services for special needs students would institutional specialization within the college system be the most effective means for meeting their needs? Responses to both the 1986 College President's Task Force Report of College Services to Special Needs Students and a 1988 OCUA survey indicated that institutional specialization according to disability should *not* be encouraged; it would limit student choice and accessibility. Nevertheless, there may be cases in which specialization represented a more effective and/or efficient route to follow. An examination of institutions such as Gallaudet University, a university for the deaf in the United States, might assist in clarifying the specialization issue.

- The Atlantic Centre of Support for Disabled Students, located at Saint Mary's University, has initiated work, in cooperation with all education institutions in the region, to assess the needs of students with particular disabilities and to determine the size of of the population requiring special attention. Would such a centre in Ontario assist with policy and program development?

Related Background Documents Available at Council of Regents

Beth Thorsen, Mini-Project #11, The College Communities: Special Needs, 1989.

Student Services: Meeting Students' Needs For Access and Success (Project #13)

- The College Committee on Student Affairs (CCSA) submitted to Vision 2000 a paper which describes, from its perspective, some of the most important barriers limiting *access* to and *success* in college programs; the paper also suggests ways in which these barriers may be reduced. This 'Highlights' report is a brief summary of the CCSA paper.

- Adult illiteracy is raised as a major concern and barrier to training. The CCSA urges "the government to give the mandate for redressing the problems of illiteracy to one of the educational 'systems'."

- In addition to the 'illiterate population,' specific groups are felt not to be accessing the colleges to the extent that one would expect or hope; these include: basic and general level graduates; the learning disabled and other students with special needs; and native students.

- Barriers to access cited by CCSA include: the level of student financial assistance; a lack of flexibility in part-time programming; a lack of affordable child care; confusion about what programs are available and what they are about; a lack of formal recognition of 'life experience' for the mature student; the restricted ability to provide student services during evenings and weekends due to funding constraints; and a lack of sensitivity on the part of college staff to the needs of specific populations.

- In terms of "facilitating and maximizing student development and success" the CCSA stresses the need for "a holistic view of student growth (which) recognizes the essential value and importance of the learning that the student is afforded outside of the classroom walls." "An end must be put to the narrow attitude that service agents are less than necessary as opposed to integral to the student experience and academic support."

- To promote appropriate program selection by students the CCSA recommends that the college system research and develop 'diagnostic' tests; the progress of 'high risk' students should be carefully followed so that remedial action may be undertaken as soon as required — tracking systems need to be developed and implemented.

Related Background Documents Available at Council of Regents

College Committee on Student Affairs, Access and Success (A Submission to Vision 2000), 1989.

Distribution of College Students by Discipline Area and Labour Market Needs
(Project #7)

Findings

- The major objective of this project was to shed some light on the question: Do college students' enrolment decisions with respect to field of study match up well with labour market needs? Of particular interest was the relationship between enrolment in technology programs and labour market conditions.

- Between 1983 and 1987, enrolment in technology programs decreased 19.5%; enrolment in other full-time post-secondary programs increased 8.6%.

- Over the same period, the percentage of technology graduates available for work obtaining employment related to their field of study increased from 56.0% to 82.9%, a 48% increase.

- At first glance one might conclude that statistics such as these suggest that technology enrolment is not very responsive to labour market conditions: enrolment in both absolute and relative terms fell during a period in which the probability of obtaining related employment increased.

- But, two factors should be noted, namely: (i) **throughout the period 1983-86 the probability of technology graduates obtaining related employment was below that of graduates of other fields**, and by as much as 10-15 percentage points in 1983 and 1984. Only in 1987 did the probability of technology graduates obtaining related employment match that of graduates of other fields; thus, even if instantaneous response to labour market conditions were possible on the part of students, one would have expected that technology enrolment would have suffered relative to enrolment in other programs at least through 1986; and (ii) **the time which elapses between the decision to enter a particular college program and entry into the labour market**. The decision to position oneself for admittance to a technology program is often made early in high school through selection of high school courses. Thus, given the recession of 1982 and its very adverse and fairly prolonged impact on employment prospects for technology graduates, it is not surprising that technology enrolment fell again in 1987; this is consistent with students' college-related educational decisions being affected by the state of the labour market a few years prior to actual entry into a college program. (Enrolment in technological studies in the secondary schools as a percentage of total enrolment declined considerably between 1983 and 1986.)

- If the likelihood of a technology graduate obtaining related employment continues, beyond 1987, to match that in other fields, then one would expect to observe technology enrolment to soon begin to grow at about the same rate as enrolment in other fields. Preliminary enrolment figures for 1989 suggest this is occurring; in 1989 technology enrolment has increased 3.9%, while total system enrolment has increased 3.3% over the previous year's level.

- While our analysis of the sensitivity of students to labour market conditions is impressionistic at best, American studies of a much more 'scientific' and detailed nature, support the conclusion that college students are fairly responsive to labour market conditions when selecting a field of study. See, for example, Richard B. Freeman: (i) The Market for College-Trained Manpower, Harvard University Press, 1971; and (ii) The Over-Educated American, Academic Press, 1976.

- Other factors — non-economic factors — have been brought forward to explain the decline in technology enrolment during the 1980s. These relate to concerns about: (i) the level of knowledge of technical occupations of many high school teachers and guidance counsellors; (ii) the adequacy of math and science programs in our elementary and secondary schools; (iii) parental and societal attitudes towards technical occupations; and (iv) the marketing of technology programs to high school students by the colleges themselves.

- Undoubtedly each of these factors and others affect the decision to enrol in technology programs and efforts need to be made to overcome the concerns noted above. But even if improvements were made in these areas, one would likely still observe recurring shortages and surpluses of college graduates in technology and other fields. As long as (i) college students are fairly responsive to labour market conditions and (ii) the time which elapses between the decision to enter a program and graduation from a program is several years, one can expect labour shortages followed by labour surpluses on a fairly regular basis.

- Another concern related to declining technology enrolment is that there is the impression that colleges have lowered their admission standards and/or program standards in an effort to maintain enrolment and avoid cancellation of technology programs.

Issues/Implications

- If one accepts the notion that college students in selecting a field of study are fairly responsive to labour market conditions, then there are actions which might be undertaken to reduce the magnitude of shortages and surpluses in particular occupational fields. For example: scholarships might be used to attract students into fields in which shortages are anticipated; if college training became more general in nature (i.e., if students acquired skills which were more transferable from one occupation to another), then the adaptability of college graduates to changing labour market conditions should improve, provided that employers were able and willing to increase their specific skills training; and the chronological time it takes to train an individual in a particular field could be shortened if the school year were lengthened.

- In what discipline areas, if any, these actions should be undertaken depends on the impact of labour market imbalances. For example, in some technology-related occupations a small shortage of skilled technologists may represent a major 'bottleneck' to production, while a small shortage in other occupations may have little impact on production.

- The government may wish to designate certain programs as priority programs and provide these programs sufficient funding to allow them to operate effectively in times of declining enrolment. If this were done, the pressure to lower admission and program standards would lessen during such periods.

Related Background Documents Available at Council of Regents

Robert Bernhardt, Distribution of College Students by Discipline Area and Current Labour Market Needs, 1989.

Future Educational/Training Requirements of Ontario's Population (Project #8)

Findings

- The future educational/training needs of Ontario's population will be influenced by significant demographic changes and significant changes in the skills requirements of Ontario's economy.

- The key demographic changes over the next ten years will be: (i) a decrease in the number of young people entering the labour force, at least through to the year 2000; the population aged 17 to 24 is projected to decrease by almost 120,000 or 10% between 1987 and 2000; (ii) a large increase in the number of middle-aged workers; between 1987 and 2000, the population aged 25-54 is projected to increase by almost 1,000,000 or 25%; (iii) a less rapid increase in the growth of female labour force participation rates; (iv) a substantial increase in the seniors' population; those aged 65 and over will increase by 42%

between 1987 and 2000, and by a further 26% between 2000 and 2011; and (v) changing immigration patterns, with net migration to Ontario projected to decline and new immigrants to Ontario increasingly coming from 'non-traditional' sources (e.g., Asia, Africa, Central and South America).

- As a result of these demographic changes, Ontario's economy should shift from a situation of labour surpluses and a relatively young labour force, which characterized most of the past two decades, to labour shortages and a noticeably aging labour force.

- Key factors likely to alter the nature of skills required in our economy include: (i) the pressures of international competition; (ii) technological change; and (iii) the introduction of new organizational structures within the workplace.

- Calls for a restructuring of the Ontario economy are increasingly being heard. There is concern that unless Ontario intensifies its efforts to generate income through trade of manufactured goods, the growth of the service sector, including both commercial services (e.g., finance, communications...) and social/consumption services (e.g., health, education, and leisure services), will be severely constrained. And growth in income through trade is felt to be highly dependent on research and development, activities in which Canada lags behind other industrialized countries; in 1987, Canada spent 1.3% of its GDP on R&D, while countries such as Japan and Sweden were spending more than twice this percentage.

- International competition and technological change will, for many, mean several significant job changes within the course of their working lives.

- Critical labour supply shortages in some industrial trades already exist and concerns are being raised about potential shortages of highly-qualified employees in technology-oriented occupations.

- The desired entry-level skills for the semi-skilled and unskilled worker, currently at the Grade 12 level, are expected to continue to rise. Numeracy, literacy and communication skills are increasingly becoming essential prerequisites for entry to the labour force.

- And as stressed by the MIT Commission on Industrial Productivity, there will be a need to: cultivate a more involved, less specialized, continuously learning work force; form product teams within firms to integrate and (where feasible) perform concurrently the functions of research and development, product design, and process design to achieve greater efficiency and a shorter time to market; flatten organizational hierarchies to give employees greater responsibility and broader experience; to have key employees develop an adequate understanding of foreign cultures. (See pp.147-155, MIT Commission on Industrial Productivity, Made in America - Regaining the Productive Edge, The MIT Press, 1989.)

Issues/Implications

- The changing demographics and skills requirements of the economy raise several questions related to future educational and training strategies within Ontario.

  What role should Ontario's colleges play in the training of the older worker? What changes in teaching methodologies, program content and duration, and scheduling may be required? What role should industry play in the training of the older worker?

  What role should the colleges play with respect to the high school dropout? With respect to the Grade 12 general graduate who has entered a college post-secondary program but is lacking the literacy and numeracy skills one would expect of a Grade 12 graduate?

What curriculum changes may be required in college post-secondary programs? Should, for example, **team projects** and courses on **other cultures/languages** become a component of most programs? Should the number of **co-op programs** be expanded as a means to instill more positive attitudes about life-long learning ?

Should colleges focus on the provision of **portable skills** (i.e., skills which are applicable in several occupations and which provide a foundation for further acquisition of skills) and leave the more specific job-skills training to industry? If colleges moved in this direction, would students show the same willingness to attend college or is it the very job specific skills which they are seeking?

Should colleges become more involved in **applied research** in, for example, the engineering technology field? Is there a danger that the critical mass of resources necessary for successful research activities would be less likely to materialize if limited research resources were spread across not only business, industry, universities, and government, but, also, the colleges?

Will traditional **market forces** be sufficient to attract enough competent individuals into trades and technology training? Or are social biases against trades and technology occupations such that market forces will not be sufficient? Do our **apprenticeship programs** and trades regulations require a major revamping? Do high school and college **technology programs** require a major revamping?

Should colleges attempt to simultaneously perform **functions** ranging from providing basic job readiness training, to advanced training and applied research in technical fields?

Related Background Documents Available at Council of Regents

This highlight document was prepared in part on the basis of unpublished notes provided to Study Team 1 by officials from the Premier's Council. The interested reader is referred to current and future publications of the Premier's Council and to The MIT Commission on Industrial Productivity, Made in America - Regaining the Productive Edge, The MIT Press, 1989.

Regional Distribution of Enrolment by Program and Breadth of Programming by Region (Project #9)

Findings

- This project assesses the extent to which enrolment is concentrated in various regions of the province in any of the occupational groups for which colleges provide programs. It also examines the breadth of programming offered in each region.

- To determine whether enrolment in an occupational field was concentrated in particular regions, it was arbitrarily defined that enrolment concentration was considered 'high' if a region's share of system enrolment in a particular occupational/program field was more than twice the region's share of total system enrolment. College programs were grouped into 51 fields, of which 14 were technology-related, 16 business-related, 17 were in the applied arts field, and 4 were in health.

- The analysis was conducted in terms of the six 'economic' regions of Ontario, namely: Northwest (Confederation); Northeast (Cambrian, Canadore, Northern, Sault); Eastern (Algonquin, Loyalist, St. Lawrence); Central (Conestoga, Georgian, Mohawk, Niagara, S. S. Fleming); and Metro Toronto (Centennial, Durham, George Brown, Humber, Seneca, Sheridan). Table 1 shows the results.

- The results indicate that the selection of programs by students is positively related to their region's industrial/occupational structure. For example: enrolment in the two northern regions is *'concentrated'* in technology programs related to the resource-based industries in the regions; enrolment in the Eastern region, where the proportion of the labour force employed in the government sector is about twice that for the province as a whole, is 'concentrated' in government-related programs; and enrolment in the Southwest region, relative to the province as a whole, is disproportionately weighted towards automotive technology, reflecting that region's involvement in the auto industry.

- The Central and Metro regions are the most comprehensive in their program offerings, offering programs in more than 90% of the occupational groupings used in the analysis. The northern regions are the least comprehensive, offering programs in about two-thirds of the occupational groupings. Given that northern colleges serve a much smaller population than Metro colleges and that the northern industrial base is not as diversified, the narrower range of programs offered in the northern regions does reflect a certain sensitivity to market conditions. It should also be pointed out that the range of programs in the northern colleges would be still narrower if it were not for the special funding provided to these colleges to allow them to offer programs with smaller section sizes than at other colleges in the system.

Table 1
Program Enrolment Concentration by Economic Region, Fall 1988

'High' Concentration Program Fields	Regional Enrolment in Program Field as a % System Enrolment in Program Field	# of Students in Program Field in Region
Northwest Region (2.7% of Total System Enrolment, 2,550 Students)		
Automotive -Technology	6.3%	26
Power -Technology	17.9%	21
Welding - Technology	15.6%	14
Aviation - Technology	31.4%	241
Child/Youth Worker - Applied Arts	5.7%	72
Health - Miscellaneous	8.5%	42
Northeast Region (8.6% of Total System Enrolment, 8,095 Students)		
Drafting - Technology	24.6%	46
Instrumentation - Technology	24.8%	70
Resources - Technology	22.7%	365
Welding - Technology	36.1%	44
Aviation - Technology	25.3%	194
Preparatory/Upgrading - Applied Arts	21.5%	882
Eastern Region (15.2% of Total System Enrolment, 14,244 Students)		
Government/Real Estate - Business	35.3%	88
Southwest Region (11.8% of Total System Enrolment, 11,117 Students)		
Automotive - Technology	40.7%	167
Government/Real Estate - Business	26.5%	66
Art - Applied Arts	25.8%	125
Horticulture - Applied Arts	28.2%	86
Develop./Mental Ret. Wkr. - Applied Arts	30.1%	346

... continued

'High' Concentration Program Fields	Regional Enrolment in Program Field as a % System Enrolment in Program Field	# of Students in Program Field in Region
Central Region (21.1% of Total System Enrolment, 19,804 Students)		
Resources - Technology	65.8%	1,060
Materials Management - Business	88.6%	140
Metro Region (40.5% of Total System Enrolment, 38,030 Students)		
Recreation Facilities - Business	100.0%	147
Small Business - Business	85.0%	238
Fashion - Applied Arts	88.4%	953
Crafts - Applied Arts	83.8%	218
Public Relations - Applied Arts	81.8%	257

Comprehensiveness of College Programming

	Economic Region						
	NW	NE	East	SW	Central	Metro	System
Division	# of programs/Occupational groups						
Technology	9	12	10	11	14	14	14
Business	10	10	13	11	13	15	16
Applied Arts	9	11	15	14	14	17	17
Health	3	3	4	4	4	4	4
Total	31	36	42	40	45	50	51

Issues/Implications

- The variations among the regions in terms of both enrolment distribution by program area and in terms of the comprehensiveness of programming provide impressionistic evidence that students and colleges are fairly sensitive to the labour market conditions in their region.
- Although the analysis cannot make the case in and of itself for or against program rationalization, it indicates that one should not 'leap' to the decision that more formal program rationalization is required in the college system. Much more in-depth analysis should be undertaken before reaching any firm conclusions in favour of program rationalization.

Related Background Documents Available at Council of Regents

Howard Rundle, Enrolment Concentration in College Programs, 1989.

International Education and Ontario's Colleges (Project #30)

Findings

- Between 1976 and 1987 the number international students enrolled in full-time, college post-secondary programs in Ontario decreased by about 50%, falling from about 1,800 in 1976 to 900 in 1987.

- Beyond the collection of numbers of international students attending college, little information is systematically collected on the international activities of Ontario's colleges. In its brief to Vision 2000, the College Committee on International Education (CCIE) notes several types of international education activities in which the colleges, to a greater or lesser extent, are involved, including:
    - international students studying at Ontario colleges;
    - study-abroad programs for Ontario students;
    - work-abroad programs (i.e., co-op programs) for Ontario students;
    - student exchange programs;
    - staff exchanges;
    - consulting services provided by college staff to international clients; and
    - institutional twinning.

- The CCIE believes that the CAATs "are at an important crossroads: to carry on business as in the past or to adapt to the new realities;" that is adapt to "a change-prone, technology-driven, knowledge-based, globally-interdependent society." (pp.1-2)

- As part of the process of adapting to the 'new realities,' the CCIE recommends that:
    - international education be recognized as an integral part of the college mandate;
    - each college have an active International Education Department;
    - the colleges develop an effective marketing strategy with respect to their international education initiatives and services;
    - a system-wide international marketing secretariat be established to coordinate and support international activities of the colleges; and
    - each college 'internationalize' its curriculum.

- In addition, to the 'economic' arguments for expanding the international education activities of the colleges (that is, the need to provide Ontario residents with the skills and education necessary for adapting to and competing in the increasingly interdependent international economy), other potential benefits include:
    - a strengthening of Canada's contribution to developing countries;
    - the development of a better understanding of different cultures and global issues, among both Ontario and non-Ontario residents, which, given the expected increase in the international mobility of labour, will be ever more necessary if the full benefits of labour mobility are to be realized; and
    - a means for enriching the working lives of college teachers.

Issues/Implications

- The qualitative arguments for expanding the international education activities of the colleges would appear to be quite strong. In undertaking such an expansion, however, there will be a need to:
    - ensure that international students studying here and Ontario students studying or working abroad receive quality instruction and work placements. Within Ontario, this may mean that each college or groups of colleges should become specialists in particular fields of international education. For example, selected colleges might provide nursing education to international students; others might focus on business or technology training, and so on. If quality is not assured, there is the real danger that the flow of students to and from Ontario will not reach desirable levels.

- coordinate and share curriculum development resources within the college system so that international curriculum may be effectively integrated into existing college programs for the benefit of Ontario residents who do not study abroad;
- achieve a reasonable balance between the flow of students into and from Ontario, particularly with respect to formal exchange programs; otherwise, if, for example, the inflow exceeded the outflow, the Ontario public may feel that resources are being directed at foreign students at the expense of Ontario's students and, as a result, may discourage further forays into international education;
- develop systematic data and information systems on the international education activities of colleges; and
- in general, plan and coordinate the international activities of the colleges. The college system in *conjunction with* representatives of the provincial and federal governments might undertake to develop a strategic plan, and selected policies and procedures related to international education. (Both the federal and provincial governments are involved in sponsoring roles and, as well, represent valuable resources in terms of initiating and developing contacts abroad.)

Related Background Documents Available at Council of Regents

College Committee on International Education, International Education and the Ontario Colleges of Applied Arts & Technology, 1989.

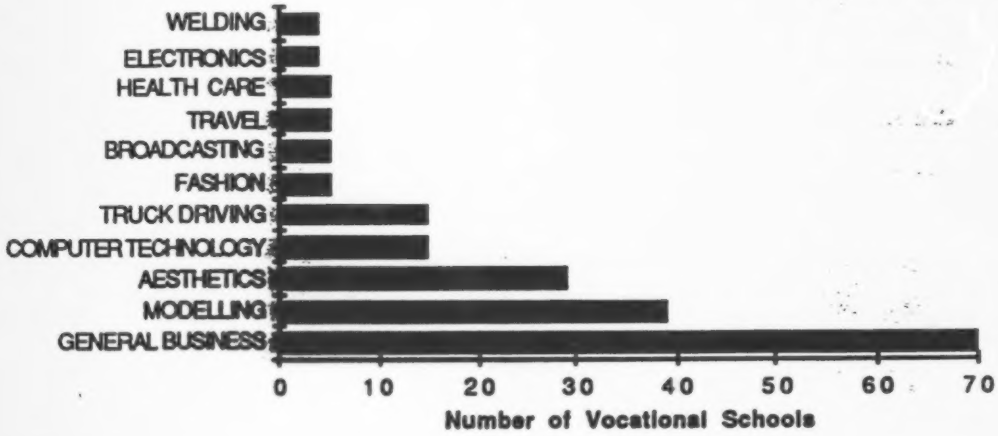
International Activities Unit, Ministry of Colleges and Universities, Submission to Vision 2000, (Submission requested by Vision 2000; it represents the personal views of staff and is not meant to represent a ministry position or policy), 1989.

Private Vocational Schools (Project #21)

Findings

- Private vocational schools have a long history of operation in Ontario, dating back to the 1860s. Today there are more than 200 registered schools and it is a $75 million a year industry, training on average 30,000 students a year. Enrolment has been declining since the early 1980s. Historically private vocational schools enrolment trends have been counter-cyclical: when the economy shrinks, causing higher unemployment, enrolment swells; conversely enrolments taper as economic expansion occurs.

Number of Private Vocational Schools in Ontario by Main Area of Vocational Training, September 1987



Source: Ministry of Colleges and Universities, Private Vocational Schools Unit

- The schools attract a wide spectrum of students (from those right out of high school to university graduates who want more specific training), but have been most successful in attracting 'mature students' who have labour force experience and may be attempting a career change or who require short-term, skill-specific training.

- Programmes average 6 months to 1 year in duration, but may last as long as 2 years. The average tuition fee is $3080.19, but can be as high as $5000-$10000. In 1987/88, tuition fees at the CAATs for a full-time student were $620.00 per year. The college student's tuition fees represent slightly less than 11% of the annual operating costs of training a post-secondary student; while tuition fees at private vocational schools represent 100% of annual operating costs, as the schools receive no outside funding.

- It is estimated that a day of training at a private vocational school is 40-50% cheaper than an equivalent day of training at a CAAT.

- The schools are subject to the Private Vocational Schools Act (1974) and programmes are accredited or regulated by a number of institutions including: the National Accreditation Commission (NAC); the Association of Canadian Career Colleges (ACCC); the Private Career Education Council (PCEC).

- The private vocational schools have a distinct advantage over their CAAT counterparts in terms of lower student/teacher ratios; frequent start-updates, and when providing training in 'comparable' programmes tend to do so in a shorter period of time. On the other hand, they are very risk adverse and cannot offer programmes that involve high capital costs or of longer duration.

Issues/Implications

- Changing population demographics may be advantageous to the private vocational schools, as the population aged 25-54 is projected to increase by almost 25%, and this age group makes up their natural market. On the other hand the population aged 17 to 24 is expected to decline by almost 10% between 1987 and 2000, and almost 85% of post-secondary enrolment falls within this age range.

- The redirection of federal training expenditures, through the Canadian Jobs Strategy (CJS), means that the CAATs will have to actively compete with other suppliers (including private vocational schools) of training

- There exists a concern that private vocational schools' training is too skill- and job-specific, especially in light of evidence that employers' needs may be shifting towards requiring a multi-skilled labour force. As well, new production techniques may result in training programmes with higher capital costs and of considerably longer duration. It is unlikely that the private vocational schools will become involved in training programmes that require large capital expenditures or that are of a longer nature.

- The CAATs may need to examine whether they should operate as if they are in a 'segmented' market and relinquish selected programmes to the private vocational schools.

Related Background Documents Available at Council of Regents

Robert Marshall, Mini-Project #21 - Private Vocational Schools - The Fourth Option?, 1989.

Trends in Federal Training Policy (Project #5A)

Findings

- Federal expenditures on *active* labour market programs (e.g., mobility assistance, training and retraining, placement services, and job creation) have fallen *relative* to expenditures on *passive* programs (e.g., income maintenance programs). For example, from the mid-sixties to the end of that decade, the ratio of federal unemployment insurance expenditures to federal training expenditures was about 1.37 : 1; by 1987 this ratio was almost 7:1. In 1987 Canada ranked sixth among the 22 OECD countries in expenditures on unemployment compensation; Canada spent 1.68% of its GDP on unemployment compensation, while, for example, Germany spent 1.33%, Japan 0.42%, and the United States 0.59%.

- The introduction of the **Canadian Jobs Strategy** (CJS) in 1985 represented a fundamental change in federal government policy. CJS places much greater emphasis on the involvement of the private sector in the development and delivery of training programs than previous federal initiatives.

Percentage of Federal Training Dollars to Colleges and Other Suppliers of Training

			Estimates	
	85/86	86/87	87/88	88/89
CAATs	98.4	95.9	94.3	91.9
Other Suppliers	1.6	4.1	5.7	8.1

Source: Ontario Ministry of Skills Development

Percentage of Colleges' Federal Training Dollars Via 'Indirect' and 'Direct' Purchase Routes

			Estimates	
	85/86	86/87	87/88	88/89
Indirect	0	8.3	19.3	27.4
Direct	100	91.7	80.7	72.6

Source: Ontario Ministry of Skills Development

- Total federal training expenditures in Ontario fell 13.5% (in real terms) between the introduction of CJS in 1985-86 and the 1988-89 fiscal year.

- Under the CJS, federal training dollars may find their way to the colleges by two routes, namely: (i) through 'direct' purchases by the federal government; and (ii) through 'indirect' training purchases by Community Industrial Training Committees and other community agencies.

- Federal training expenditures (direct and indirect) *flowing to Ontario's colleges* have been falling at an even greater rate than total federal training expenditures since the introduction of CJS. Between 1985-86 and 1988-89, federal expenditures flowing to the colleges are estimated to have fallen 19.1% in real terms.

- Increasingly the federal dollars finding their way to the colleges are arriving by the indirect route. In 1985-86 essentially none of the federal dollars flowing to the colleges came via the indirect route; by 1988-89 more than 25% of federal funds were arriving by this route. Thus, the colleges are becoming increasingly dependent upon the *competitive* (indirect) route as a source of federal training dollars.

- In the recently published de Grandpre Report (1989), **Adjusting to Win**, it is argued that it is not possible to distinguish between unemployment that is a result of the Canada-U.S. free trade and unemployment caused by other factors. The report goes on to suggest that on 'equity' grounds all persons who find themselves unemployed should have access to training and retraining. To finance this rather 'comprehensive' policy, the introduction of a levy-grant scheme is advocated " as an incentive to stimulate private sector training." Under such a scheme a tax liability would be established which employers would be able to offset by making expenditures on training.

- The recent pronouncements in the Speech from the Throne (XXX Parliament) suggest, however, that, at least in the short run, a levy-grant system will not be part of the federal government's program. The government has indicated that it intends to shift expenditures from passive labour market measures

(UI) to more active measures. In 1990 $800 million of UI expenditures will be reallocated to training and skills upgrading programs. The government, in keeping with the policy direction initiated by CJS, continues to stress the need for a 'substantial' increase in the private sector's involvement in training.

Issues/Implications

- For the immediate future at least, the college system will find itself competing with private suppliers of training for federal funding. To flourish in this more competitive environment the college system must determine the program and geographical areas in which it is likely to have a comparative advantage. Colleges are likely to have an advantage in program areas which by necessity are longer in duration or more capital intensive in terms of inputs.

- The 'jury' is still out on what areas of training the private sector can be more *cost-effective* than public institutions. As experience increases, we will likely witness shifts in the allocation of federal funding — training which was initially thought to be better suited for the private sector will move to the colleges and vice versa. Thus the colleges will need to be not only competitive but also able to withstand and respond to changing federal views on where different types of training should take place. Increasingly training 'partnerships' between the private sector and public institutions may develop, with each sector contributing to a particular training program what it can do best.

- The federal government's reallocation of UI funds does signal a movement towards a more active labour market policy. The colleges, even given stiff competition from the private sector, may be able to increase their revenues and training activity somewhat if this change in government direction persists.

Related Background Documents Available at Council of Regents

Craig McFadyen, Mini-Project #5, Trends in Federal Training Policy, 1989.

Employer Sponsored Training (Project #22)

Findings

- The incidence of employer sponsored training (EST) appears to be positively correlated to firm size. A survey conducted in 1984 by the Ontario Manpower Commission found that approximately 27% of all Ontario employers sponsored formal training programs and that "the incidence increases with the size of the establishment, from a low of 24% for the smallest establishments (those with fewer than 20 employees) to a high of 88% for the largest (those with 200 or more employees)."

- There are indications that EST has been on the increase in recent years. The OMC, for example, reported that the percentage of medium-sized firms engaged in formal training increased from 52% in 1984 to 61% in 1987. This growth in EST, however, has been attributed to increases in economic growth during this period and not to increased development of a 'training culture' within firms.

- EST tends to focus on certain occupations within firms (management followed by sales staff, production workers, skilled labour, and clerical staff); it usually is of short duration (65% of employer sponsored training is of 2 weeks duration or less); and it tends to be geared to the workplace orientation needs of new hires.

- In comparison with other advanced industrialized countries, expenditures by Canadian employers on training is well below the average; Canada relies on publicly funded institutional training to a much greater extent than other countries.

- Two factors commonly cited as inhibitors to EST are: (i) fear of 'poaching' by competitors — it may be less expensive to hire individuals trained by another firm than to provide training; and (ii) insufficient size of a firm — for smaller firms the per unit costs of providing training may exceed the benefits.

- While a significant proportion of EST is done 'in-house,' approximately 30% is contracted out to public or private sector trainers. EST is accounting for a growing share of college revenues and, although this share remains low system-wide (less than 3% of total revenue), some colleges have experienced considerable success in attracting revenues (up to 9% of total revenue) from this source.

- Employers indicate that there is much room for increased college participation in the delivery of employer sponsored training; however, they also stress that if this is to occur, colleges will need to: (i) become more knowledgeable about the needs of employers; (ii) place more emphasis on standards; (iii) be more flexible in terms of curriculum design and location of training; and (iv) better inform firms, particularly small and medium sized firms, of their training capabilities.

Issues/Implications

- The changing demographics and increasing difficulties in attracting skilled immigrant labour will place greater pressures on employers to find ways for upgrading and updating employees. The colleges can play an important role in this area. However, to the extent that pubic funds are (might be) used to assist employers in their training efforts, care must be taken to ensure not only that the specific interests of employers are being addressed but, also, that societal needs are being met.

- From the public perspective, one factor which needs to be taken into account is the portability of skills acquired through training, in terms of both transferability from one industry/occupation to another and transferability over time (that is, are the skills ones which will serve workers well over an extended period of time or are they likely to be of value for a relatively short period of time). Another factor which may be important from the public's perspective is the fact that smaller firms tend to be less inclined or able to engage in training than larger firms. To serve the public interest colleges may need to resist focussing too much of their attention on obtaining contracts with larger firms; while providing training services to larger firms may be the easier and more prestigious route for colleges to follow, it should not be followed at the neglect of the needs of smaller firms.

- It may be worthwhile to assess the feasibility of having colleges offer their training services to employers at a variety of prices, ranging from 'full cost' prices to 'subsidized' prices. The price quoted to a particular employer could depend, in part, on the nature of the skills training (general and portable versus specific and limited portability) desired by the employer and the ability of the employer to pay (as determined somewhat arbitrarily by factors such as the size of a firm).

- Employers increasingly seem to desire training which enhances their employees' basic analytic and communication skills and which also provides employees with quite firm specific job skills. Colleges will need to develop curriculum which 'strike(s) a balance between between the specific and the general' if they are to increase their participation in EST.

- College faculty who have been mainly involved in teaching 'young' high school graduates may need to adjust their teaching styles to reflect the different needs and backgrounds of the 'older' employer-sponsored students. College faculty, to an even greater extent than before, will need to keep abreast of technological and organizational changes in the workplace if the training is to be considered relevant by employer-sponsored students. Colleges will need to find ways of increasing their flexibility in terms of when and where EST can be offered.

- By improving the development and marketing of programs to industry for the purposes of attracting greater EST revenues, the colleges may also improve their competitive position vis a vis the growing pool of 'indirect' (i.e., CITC administered) federal training purchases.

Related Background Documents Available at Council of Regents

Craig McFadyen, Jim Hsu and Herb Young, Employer Sponsored Training, 1989.

Determinants of Post-Secondary Education Choice: The Choice Between Community Colleges and Universities (Project #3)

Findings

- What determines the type of post-secondary institution (college versus university) a student selects? This is essentially the question posed by Noemi Stokes and David Foot in work undertaken by them for Vision 2000.

- Answering this question is important not only from the perspective of accessibility (the socioeconomic distinctions between college and university students may be as significant as the distinctions between those who attend post-secondary institutions and those who do not) but, also, from the perspective of an 'efficient' distribution of students between colleges and universities (students' decisions regarding the type of post-secondary institution to attend may not conform to societal needs).

- Stokes and Foot include in their analysis of educational choice variables relating to:
  - *Family Background* (e.g., parental education, ethnicity, and parental income);
  - *Student Characteristics* (e.g., gender, age, and marital status);
  - *Institutional Characteristics* (e.g., reputation, location, and programs of institutions); and
  - *Financial Factors* (e.g., tuition fees and other costs of attendance, and student loans).

- If the government wanted to influence student choice, the financial variables represent one set of policy instruments which it might utilize. Thus, understanding how students respond to these instruments is important and the work of Stokes and Foot sheds some light on this.

- Their findings are based on an analysis of data from a nation-wide survey of post-secondary students undertaken by Statistics Canada in spring 1984; from this sample they analyzed data relating to first year, full-time students. The results reported here are for Ontario (n=857) only; national (n=5775) and other regional results may be found in their papers.

Impact of Family Background and Student Characteristics on Student Choice

	Probability of Attending College	Probability of Attending University[1]	Ratio of Probabilities
Family Background			
Mother's Education:			
Elementary	.379	.621	0.61
Secondary	.401	.599	0.67
Some Post-Sec.	.389	.611	0.64

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[1] These probabilities were derived from an analysis which simultaneously takes into consideration all factors determining student choice. These probabilities are not the simple averages derived from the sample.

... continued

	Probability of Attending College	Probability of Attending University[1]	Ratio of Probabilities
University[2]	.275	.725	0.38
Father's Education:			
Elementary	.492	.508	0.97
Secondary	.443	.557	0.80
Some Post-Sec.	.401	.599	0.67
University	.196	.804	0.24
Ethnicity[3] :			
English	.409	.591	0.69
French	.399	.601	0.66
Irish	.344	.656	0.52
Scottish	.356	.644	0.55
German	.342	.658	0.52
Italian	.408	.592	0.69
Ukrainian[4]	.133	.867	0.15
Other Minority	.367	.633	0.58
Student Characteristics			
Family Status:			
Single	.334	.666	0.50
Sep./Div./Wid.[4]	.725	.275	2.64
Married	.369	.631	0.58
Gender:			
Male	.384	.616	0.62
Female	.366	.634	0.58
Age:			
Age=20	.422	.578	0.73
Age=30	.168	.832	0.20
Last Previous Activity			
Student Last Yr.	.322	.678	0.47
Actual	.375	.625	0.60

- Parents' education was found to be a very important determinant of institutional choice. Controlling for all other factors, post-secondary students with fathers with an elementary school education are 2.5 (.492/.196) times more likely to choose college over university than students with fathers who have graduated from university. Similarly, post-secondary students with mothers with an elementary education are 1.4 (.379/.275) times more likely to choose college over university than students with university-educated mothers. These results are consistent with the hypothesis that children become better acquainted with the benefits of an institution attended by their parents and are positively influenced by this knowledge.

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[1] These probabilities were derived from an analysis which simultaneously takes into consideration all factors determining student choice. These probabilities are not the simple averages derived from the sample.

[2] One way to interpret these probabilities is as follows. If, for example, one selected 1,000 first year post-secondary students who had mothers with a university degree and these students were distributed in the same manner as the post-secondary population as a whole with respect to other variables (e.g., ethnicity, age, family income, father's education, sex...), then about 275 would be enroled in college and 725 in university, while in the post-secondary population as a whole 375 of every 1,000 students select college and 625 select university.

[3] Students may report more than one ethnicity, so these probabilities should be treated with some care.

[4] Based on very small sample size.

- Ontario post-secondary students from English, French, and Italian backgrounds are more likely to select college over university than students from other ethnic backgrounds. For example, controlling for all other factors, students from English backgrounds are 1.2 (.409/.344) times more likely to choose college over university than students with Irish backgrounds. Differences among ethnic groups in terms of the degree of need for achievement and in terms of what satisfies the need for achievement may affect the choice between college and university.

- The likelihood of selecting college over university decreases as parental income increases. Between the 25th percentile and 75th percentile of parental income the probability of selecting college over university decreases by about 15 percent, from 0.42 to 0.36.

- Younger students are more likely to choose college over university than older students. All other things being equal, students aged 20 are 2.5 (.422/.168) times more likely to choose college over university than students aged 30. This result may reflect not only the fact that college entrants have generally had one year less of high school than university entrants but, also, that "older, more mature students find their inner needs better satisfied by a somewhat more sophisticated university education." (p.17 Regional Paper)

- In addition, all other things being equal: (i) individuals who were working or had family responsibilities are more likely to choose college over university than individuals who were in school in the previous year; (ii) first year post-secondary students who are married are 1.1 (.369/.334) times more likely to choose college over university than single students, with married females being more than 1.5 times as likely as single females; and (iii) first year post-secondary males are about 1.05 (.384/.366) times more likely to choose college over university than their female counterparts.

- Students who indicated that the type of program offered by an institution was important were about 15 percent more likely to choose college over university than students who did not indicate that the type of program was important.

- Students who indicated that the reputation of the institution was important were about 30 percent less likely to choose college over university than students who did not indicate that reputation was important.

Issues/Implications

- Government has little if any influence over many of the variables affecting student choice. For example, ethnicity and parental education cannot be significantly affected by government policy, particularly in the short run.

- Tuition, however, is a variable over which government has some control. But the results of the Foot/Stokes analysis of student choice suggest that while tuition in a statistical sense is a significant variable, it does not appear to be a lever which could be used to bring about major changes to the distribution of students between college and university. Their results indicate that a 7% increase in university fees, holding college fees constant, would lower the percentage of students selecting university over college by only 1% (or 0.6 percentage points), from 62.5% to 61.9%.

- The results also suggest that as we approach the 21st century the changing demographic conditions will be more favourable for university than college enrolment. In a world where the population is aging, parental education and income are rising, and there are more single people, universities are likely to attract an increasing percentage of those embarking upon a post-secondary education. This, however, does not necessarily imply that college enrolment will decline, only that the college system's share of post-secondary enrolment may decline.

Related Background Documents Available at Council of Regents

Noemi Stokes and David Foot, Regional Differences in the Determinants of Post-Secondary Educational Choice in Canada: Community College versus University, 1989.

David Foot and Noemi Stokes, University or College? Determinants of Post-Secondary Institutional Choice in Canada, 1989.

Overlap of University and College Part-Time Activities (Project #24)

Findings

- Registrations in part-time courses in the college system are almost double the number in the university sector. About two-thirds of the part-time registrations in university courses are in degree credit courses; universities receive provincial funding for these courses. The other third of registrations are in non-degree credit courses (vocationally-oriented and general interest) and provincial funding is not provided for these courses. About two-thirds of part-time registrations in college courses are in 'vocationally-oriented' courses in which the colleges control the entrance and exit standards; these courses are provincially funded and may or may not be credit courses for college post-secondary diplomas and certificates. The other third of college part-time registrations are in general interest courses and vocationally-oriented courses controlled by organizations external to the college system; provincial funding is not provided for these courses.

Part-Time Registrations in College and University Courses

	College			University		
	Funded	Non-Funded	Total	Funded	Non-Funded	Total
1985	452,838	227,864	680,702	256,285	125,517	381,802
1986	490,265	251,201	741,466	260,477	124,803	385,280
1987	492,422	265,599	758,021	263,909	134,234	398,143

- The different criteria for funding university and college courses (degree-credit versus vocationally-oriented) can lead to the situation in which comparable courses are provincially supported in the college system but not in the university system. This situation is most likely to arise in part-time certificate programs in which an external organization has some involvement but the college or university maintains control over the entrance and exit standards; in such circumstances provincial support is provided for the college courses but not for the comparable university courses.

- Tuition fees for funded (i.e., degree credit) university courses tend to be two to three times the college fee for funded courses, which is $1.50 per instructional hour. Similarly, fees for non-funded university courses tend to be higher than those charged for non-funded college courses; instructors teaching non-credit courses in the universities appear to receive roughly twice the hourly rate paid to college continuing education instructors.

- In terms of assessing overlap between college and university part-time activities, the fact that about two-thirds of the university activity is in the degree-credit area presently limits the potential for a large amount of overlap. Some overlap exists in non-degree credit vocationally oriented courses and general interest courses. The overlap occurs predominantly in the mounting of seminars, course offerings in the business and management development areas, in professional association programmes, and in selected general interest and personal enrichment areas. However, on the basis of three 'case studies' (Seneca College and York University; St. Clair College and the University of Windsor; and Northern and Sault Colleges and Laurentian University), the overlap which does exist does not appear to be causing concern in either the university or college sector. The population base being shared by the two sectors is sufficiently large that where similar courses are offered simultaneously in both sectors, the financial viability of the courses is not being adversely affected and accessibility is being enhanced.

Issues/Implications

- Based on the case studies presented, little adverse duplication or overlap appears to be occurring between neighbouring colleges and universities. The situation should, however, be monitored on a regular basis to ensure that 'inefficiencies' do not develop.

- Given that universities, colleges, and school boards all may offer similar part-time courses, it might assist part-time students if a common calendar were developed which included the part-time courses offered by all three sectors; along the same lines, it might be beneficial to establish 'storefront' information centers at which a prospective student could obtain information on the part-time offerings of each sector.

- The government may wish to examine whether the different criteria it uses for funding university and college courses are appropriate. Should students enrolled in essentially the same course pay a higher fee at a university than at a college because funding is not provided for non-credit but vocational university courses ?

Related Background Documents Available at Council of Regents

Teresa Karolewski, Overlap of University and College Part-time Activities, 1989. Also see Project # 4, Teresa Karolewski, Continuing Education Students at Ontario's Community Colleges: Profiles and Trends, 1989.

College-University Program Arrangements (Project #25)

Background and Findings

- The purpose of the research was to examine the linkages colleges have with universities. In this study the college-university arrangements of greatest interest were those which involved the movement of college students into universities.

- All 22 colleges were sent a questionnaire (19 responded) composed of three forms: Form A was designed to provide an inventory of college-university student arrangements which involved either the transfer of college students to university programs or the joint offering by a college and a university of a program; Form B was designed to collect specific detail on those arrangements identified in Form A; and Form C was designed to collect information on other types of arrangements colleges may have with universities (e.g., the sharing of space or equipment).

- The accompanying table shows the number of program specific arrangements by college and type. Arrangements with Lakehead University are excluded because it has a province-wide general policy for the transfer of CAAT students. In total, 27 arrangements were in operation in 1988, of which 23 were transfer (college to university) arrangements and 4 involved the joint provision of a program by a college and university.

- Of these 27 arrangements, 17 have been implemented since 1979, with 11 being implemented in 1988-89. In addition to the arrangements in operation in 1988, a number are about to be implemented or negotiated; colleges involved include: Durham, Centennial, Conestoga, Georgian, and Niagara.

Number of Arrangements by College and Type, 1988-89

College	Transfer Arrangements (1)	Joint - D (2)	Joint -ND (3)	Total
Algonquin	1	0	0	1
Cambrian	0	0	0	0
Canadore	0	0	0	0
Centennial	1	0	0	1
Conestoga	0	0	0	0
Confederation*				
Durham*				
Fanshawe	3	0	0	3
George Brown*				
Georgian	2	0	0	2
Humber	0	0	0	0
Lambton	3	0	0	3
Loyalist	0	0	0	0
Mohawk	2	1	0	3
Niagara	2	0	0	2
Northern	0	0	0	0
Sault	5	1	0	6
Seneca	0	1	0	1
Sheridan	1	1	0	2
S.S.Fleming	0	0	0	0
St. Clair	2	0	0	2
St. Lawrence	1	0	0	1
Total	**23**	**4**	**0**	**27**

* did not respond

Notes:

(1) 'Transfer' arrangements allow for the transfer of some credits for students or graduates moving from the college program to a university program.

(2) 'Joint-D' arrangements involve the joint provision of the program by the college and university and graduates of the program are eligible to receive a university degree (graduates may also receive some form of college certification).

(3) 'Joint-ND' arrangements involve the joint provision of the program by the college and university but graduates of the program are not eligible to receive a university degree (e.g., the university provides selected courses in a college program for which only a college diploma or certificate is awarded upon successful completion of the program).

- None of the 27 arrangements reported is province-wide in application; each program-specific arrangement is between one college and one university. The only discipline area in which a university has agreements with more than one college is early childhood education; the University of Windsor has two agreements, one with Fanshawe and one with St. Clair, and Brock has three agreements, two with Lambton and one with Niagara. (It should be noted that in addition to these 27 arrangements, Lakehead and Laurentian have province-wide policies on credit for college courses in specific program areas.)

- Thirty percent of the arrangements are with American universities and another thirty percent are with the University of Windsor.
- Most of the program arrangements have been in the 'liberal arts' area and/or in areas that feed the service sector. Business, early childhood education, and general arts and science programs are the program areas in which arrangements are most frequent.
- Under the program specific arrangements, a student completing a 3 year college program generally receives, **at maximum**, credit equivalent to completion of 50 to 75% of a 4 year university program; a student completing a 2 year college program generally receives 2 years of university credit if entering a 4 year university program and 1 year of credit if entering a 3 year university program. American universities tend to provide more credit than do Ontario's universities.
- In addition to information collected on arrangements through the survey, university calenders revealed that where specific college-university transfer arrangements have not been negotiated, the **maximum** credit given to college students enrolling in university programs is 5 (the equivalent of one year of university), provided they meet specific requirements.
- In 1986-87, 3.4% (1,362) of **new** university registrants had attended college at some time (about one half of them had a college diploma). In the past decade this percentage has increased by 40 to 50%. In 1986-87, 6.6% (about 3,150) of **new** college entrants (post-secondary) consisted of students who attended university at some time (about one-quarter of them had a university degree). This percentage has increased moderately over the period 1983-84 to 1986-87, with it being 5.8% in 1983-84.
- One of the major reasons for developing arrangements with a university is that arrangements made college programs more attractive to potential students and were seen as a means of increasing enrolment in particular programs; another reason frequently cited was that the arrangements between the colleges and the universities were seen as a means for enabling each institution to contribute what it does best to the education and training of students
- On the whole neither transfer nor joint arrangements have led to, or required, significant changes in the nature of college programs. Some respondents noted an increased emphasis being placed on 'thinking' and 'communication' skills.

Issues/Implications

- The results of this survey are encouraging in some respects. Colleges and universities are increasingly embarking upon the development of program-specific arrangements; program-specific arrangements appear to make it possible for college students to receive more credit upon transfer than that stipulated in general university transfer policies; and such arrangements do not seem to require significant changes to college programs.
- The findings, however, point to some potentially serious weaknesses of the current 'bilateral or *laissez-faire* model' for developing college-university program arrangements. It, at least to date, appears to yield rather limited and quite uneven opportunities for college graduates wanting to enrol in university programs in Ontario; arrangements exist for only a limited number of programs; there are very few arrangements in the more technical fields (e.g., technology programs); arrangements for a particular program exist at one or two colleges but not at other colleges offering the program; and arrangements for a given program exist at only one or two universities.

- While the survey respondents were generally in agreement that colleges should attempt to increase the number of arrangements with the university sector, they felt such arrangements should not adversely affect the colleges' ability to serve those seeking the vocational-oriented training traditionally provided by colleges.

- The increasingly rapid pace of technological change suggests the need for arrangements in the area of 'advanced technical' studies (e.g., electrical engineering technology).

- There may be some obstacles which need to be overcome if college-university credit arrangements are to be more widespread; for example, universities may be reluctant to grant credit for academic work for which they have no control over, or universities may wish to have some say over college curriculum but colleges might view this as an unwelcome intrusion into their affairs.

- Should the development of future arrangements rely solely on the 'bilateral model' currently in place, whereby individual colleges and universities on their own initiative undertake to develop arrangements? Or, should, for example, a provincial body be created to facilitate the development of college-university arrangements?

Related Background Documents Available at Council of Regents

Robert Marshall, College-University Transfer Arangements Existing in Ontario — Questionnaire Results, 1989.

Awareness and Perceptions of Colleges (Project #27)

Findings

- The findings presented here are based on a survey of 700 general and advanced high school students from across Metro Toronto (including Barrie), conducted in Spring, 1989. The survey was commissioned by Metro's CAATs.

Factors Affecting Choice of Post-Secondary Institution

- Among 31 attributes listed in the questionnaire the most important in selection of a post-secondary institution were:
  - career/job opportunities open to graduates;
  - the success of its graduates;
  - earning potential of graduates; and
  - the reputation of programs in my area of interest;

  Followed by:
  - ease of gaining admission;
  - availability of co-op programs;
  - recommendations of employers;
  - reputation of the faculty; and
  - the institution's facilities/equipment

  The least important were:
  - the opinions of friends and relatives;

- being able to move away from home to attend;
- on campus student residences;
- the opinion of current students; and
- the physical appearance of the campus. (pp.57-58)

Impressions of College and University

- Ratings of impressions by high school students of college and university revealed high agreement with the following statements:
  - colleges provide practical training;
  - colleges cost much less to attend than universities;
  - it is much easier to get into college than university;
  - university courses are a lot tougher than college courses;
  - universities give you a more in-depth education than college; and
  - a university degree would be more valuable to me than a college diploma.

- These were followed by relatively high levels of agreement (agree somewhat) with the following:
  - Ontario colleges are highly respected educational institutions;
  - there are thousands of high profile college grads;
  - colleges are becoming increasingly popular;
  - for the career I'm interested in, a university degree is required;
  - in our high school, universities are promoted more strongly than colleges;
  - I would be proud to tell my friends I am attending a community college; and
  - colleges excellent education in many areas not offered at university.

- There was disagreement with the following statements:
  - colleges have a dull student life in comparison with universities;
  - college grads are more likely to find jobs than university grads;
  - colleges have no residences for out-of-town students;
  - college grads advance quickly into leadership positions;
  - colleges are the fast track to the good life;
  - the starting salary for a community college graduate is equal to or higher than a university graduate; and
  - colleges give you more value for your money. (pp.64-65)

- "Colleges are perceived to provide easier, more practical education than universities (it's not the Olympics of the mind), are reasonably well respected institutions that are becoming increasingly popular, but their graduates are not perceived to advance quickly, have superior earning power or enjoy the good life, which undermines the value perception despite the widespread impression that colleges cost less to attend than university. In other words, one of the colleges' greatest weaknesses is the perceived lack of success of its graduates — the most important attribute in selecting post-secondary education." (pp.v-vi)

- "While perceived likelihood of attending university lags behind appeal of attending university, the opposite is true for colleges ... The greater appeal of university over college is consistent with national data among high school students that indicate 50% want to graduate from university while only 24% want to complete college or technical training." (pp. ii-iii)

Issues/Implications

- Colleges are not viewed in as positive terms as universities by high school students; as a result, there is the danger that, from a societal perspective, a disproportionate number of students are choosing (and will choose) university over college.

- Colleges and the post-secondary sector as a whole should strive to provide college students (graduates) with educational opportunities which will reduce the likelihood of 'career-dead-ending'. Such opportunities might be increased through: (a) greater emphasis on generic skills (e.g., skills - analytical, communication ... which are more easily transfered from one job or occupation to another); and (b) the development of more and better linkages between colleges and universities to provide college graduates greater access to university programs.

Related Background Documents Available at Council of Regents

Burwell Hay, Metro Colleges - Image and Appeal, (a report prepared for Continental Golin/Harris and their client, Metro's colleges), 1989.

In addition, from individual colleges one may be able to obtain results from the following surveys.

College Conducting Survey	Year	Target Groups
Niagara	1986	Sec. School Students; General Public.
Sheridan	1986 & 1988	Sec. School Students; General Public; Teachers & Counsellors.
St. Lawrence-Brockville	1986	Sec. School Students; General Public
St. Lawrence-Kingston	1987	College Students; Adults.
St. Lawrence-Cornwall	1989	Ont.&Que. Sec. Students; General Public.

College Operating Revenue and Funding Per Student (Project #14)

Findings

Sources of College Operating Revenue, 1979-80 and 1986-87

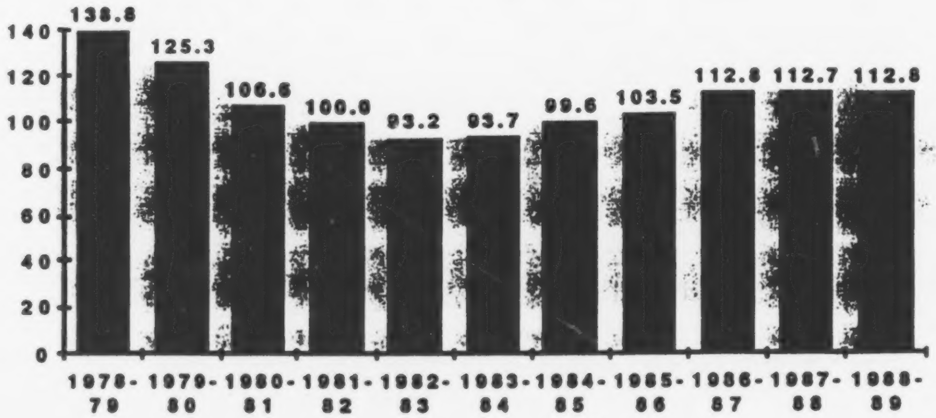
	1979-80 %	1986-87 %	% change in share
Grants - MCU	60.6	56.7	-6.4
Grants - MSD	0.9	6.5	614.2
Grants - CEIC	18.6	13.8	-26.2
Tuition	10.1	9.8	-3.6
College - Educ[1]	1.3	3.8	187.1
College - Other[2]	7.0	7.7	9.7
Miscellaneous.	1.4	1.8	25.9
	100[3]	100[3]	

1. This revenue source consists of revenues colleges have obtained through contracts for educational services and special projects.
2. This revenue source consists of investment income, revenues from the sale of course products, computer revenue, premise rent revenue, and ancillary income.
3. 'Flowthrough' funds such as OCAP and Futures student stipends are not included in this breakdown of revenue sources.

Source: Ontario College Information System

- As the chart above shows, the Ministry of Skills Development and college contract education have emerged as fairly significant sources of revenue for the college system. The Ministry of Colleges and Universities continues to be the major source of revenue, although as a percentage of total college revenues MCU's contribution has fallen somewhat. The CEIC (federal government) contribution, relative to other sources, has decreased significantly; this decline coincides with the introduction of the federal government's Canadian Jobs Strategy program in 1985-86.

REAL PROVINCIAL (MCU) OPERATING GRANT PER FTE STUDENT, 1978-79 TO 1988-89. (1981-82 = 100)



Source: College Affairs Branch, Ministry of Colleges and Universities.

- This chart shows in index form the real (constant $) grant per full-time equivalent student provided to the colleges by the Ministry of Colleges and Universities. This funding is directed mainly towards full-time post-secondary activities, but also supports tuition short activity and part-time vocational activity.

- If nothing else, one can conclude from this chart that the colleges have experienced 'turbulent times' in terms of the real per student funding provided to them for these activities. On the one hand, between 1978-79 and 1982-83, the real grant per FTE declined 33%; on the other hand, between 1982-83 and 1988-89, it increased 21%.

- If the colleges in 1988-89 had been funded at the 1978-79 per student level (the peak level over the period '78-79 to '88-89), the system's MCU operating grant would have been $152 M more or 23% more than that actually provided; if, however, the system had been funded at the 1982-83 level (the lowest level over the period), its 1988-89 operating grant would have been $115 M less or 17% less than that actually provided in 1988-89. This range of funding is roughly equivalent to having the system one year train 'x students' with 'y teachers,' and in a subsequent year train the same number of students with 30% fewer teachers.

Issues/Implications

- The system's ability to fulfil a mandate is affected not only by the level of funding but, also, by the stability of the funding. When one combines the variation in MCU funding with the changing priorities of MSD and CEIC as reflected in the table above, it is not surprising that people within the colleges and others on the periphery of the system are asking what the college system's mandate ought to be.

- With respect to the level of funding several questions arise. Is, for example, the funding currently being provided to the colleges by MCU sufficient to simultaneously: (i) maintain accessibility; (ii) provide remedial courses to post-secondary students experiencing difficulties with writing, reading, and basic mathematics; and (iii) provide students with not only specific occupational skills training but, also, a reasonable general (e.g., liberal arts) education which would assist students in understanding other cultures and the social/economic issues of the day? What indicators are needed to answer this question? And if the answer to this question is in the negative, what should be done? Should the public investment in the college system be increased? Should accessibility be decreased? Or, should the colleges continue to strive to maintain or increase student numbers within the current funding parameters, recognizing that this limits the training and education provided to the students?

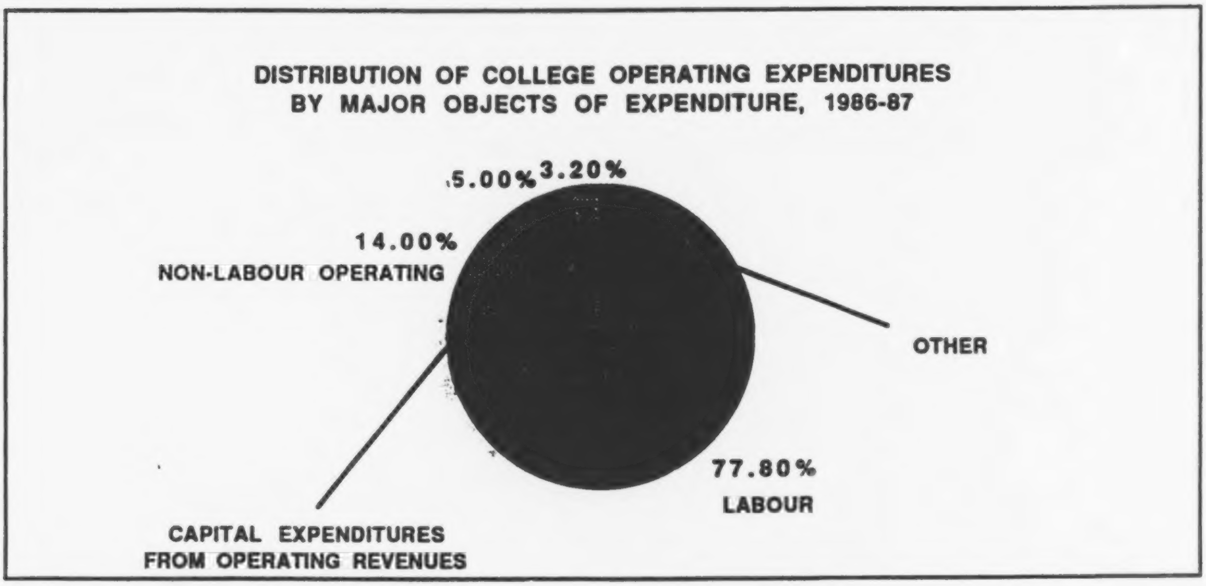
- And, are there ways of bringing greater stability to the funding provided per student which do not necessitate wide swings in accessibility levels?

Related Background Documents Available at Council of Regents

Howard Rundle, Mini -Project #14 - College Revenue and Funding Per Student, 1989.

College Expenditure Patterns, 1978-79 to 1986-87 (Project #29)

Findings



DISTRIBUTION OF COLLEGE OPERATING EXPENDITURES BY MAJOR OBJECTS OF EXPENDITURE, 1986-87

Source: Ontario College Information System

- As the chart above shows, the college system is very labour intensive, with almost 78% of discretionary operating expenditures (all operating expenditures *except* termination gratuities, municipal taxes, approved premise rentals, and student stipends which are supported by specific grants) attributable to staff salary and benefits, contracted labour services, and professional development.

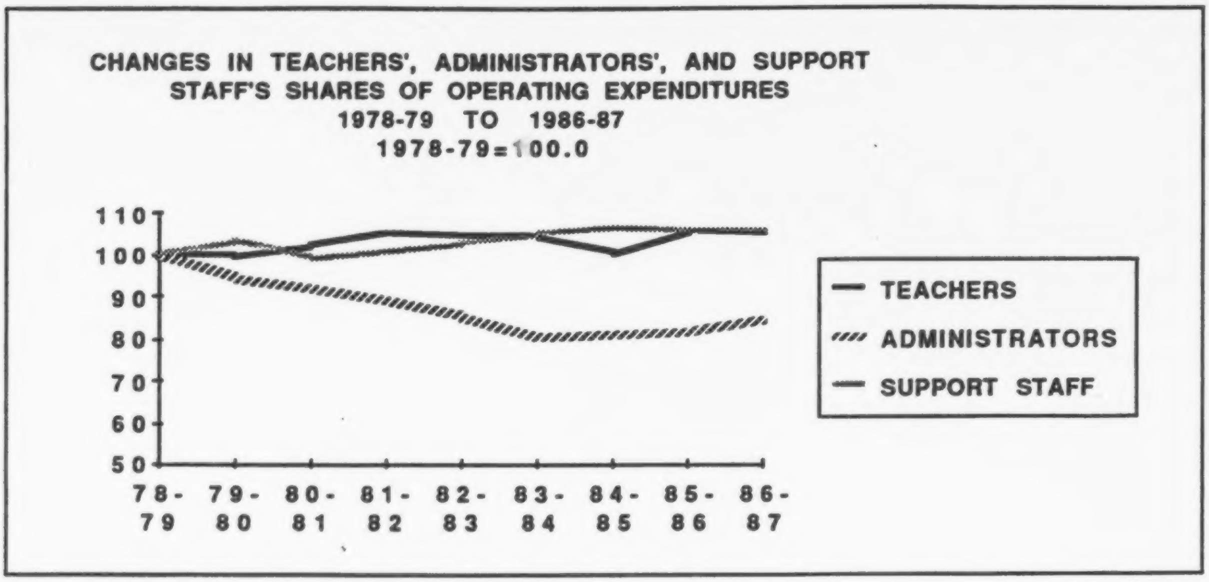
- Labour's share of operating expenditures has increased somewhat since the late 1970s. In 1978-79 labour's share was 76.4% or about 2% lower than in 1986-87.

- Non-labour operating expenditures (e.g., instructional supplies, office supplies, and utilities) accounted for 14% of total operating expenditures in 1986-87. Little variation in this percentage occurred over the period 1978-79 to 1986-87.

- Capital expenses (e.g., equipment and buildings) funded from operating revenues accounted for 5% of total operating expenditures in 1986-87. During the period 1978-79 to 1980-81 these expenditures constituted almost 7% of operating expenditures; between 1981-82 and 1986-87, however, this percentage has tended to be somewhat lower, falling within the range of 4.9% to 5.9% in all but one year.

Note: In addition to the expenditures colleges make on capital out of their operating revenues, colleges receive specific capital allocations for equipment and buildings. These allocations and the associated expenditures are not reflected in the figures reported above.

- 'Other' expenditures (e.g., ancillary enterprises), which represented 3.2% of total operating expenditures in 1986-87, have fluctuated from a share high of 3.5% in 1981-82 and 1982-83 to a low of 2.7% in 1978-79.



CHANGES IN TEACHERS', ADMINISTRATORS', AND SUPPORT STAFF'S SHARES OF OPERATING EXPENDITURES
1978-79 TO 1986-87
1978-79=100.0

Source: Ontario College Information System

- The chart above shows (in index form) the changes in the teachers', administrators', and support staff's shares of total operating expenditures over the period 1978-79 to 1986-87. The shares of both teachers and support staff have increased since 1978-79, while the percentage of total expenditures related to expenditures on administrative labour has declined.

- The teachers' share increased from 45.7% in 1978-79 to 48.1% in 1986-87, a 5.3% increase and the support staff share increased from 17.6% to 18.6%, or 5.7%; but the administrators' share decreased from 12.6% to 10.7%, a 15% decrease.

Issues/Implications

- Education has always been viewed as a very labour intensive activity and the data on college expenditures do nothing to contradict this view. In fact, even with the advent of computerized learning and administrative systems, the labour intensity of the system has increased since 1978-79.

- While real productivity gains in an education sector are possible, history would suggest that productivity gains in this sector will not keep pace with gains in other more technologically-based sectors. As a result, if college wage rates increase at about the same rate as those in sectors experiencing higher productivity growth, per unit (student) costs in the college sector will rise relative to the per unit costs of other types of production.

- Rising *relative* unit costs of education and training would suggest that governments will always be under considerable pressure to curtail expenditures on the college system. However, when assessing what the public investment in the college system should be, one should, in addition to the rising relative unit costs of education, also take into account that: (i) productivity growth in other sectors does provide a means for paying for the rising relative costs of education; (ii) the education and training provided in the college system is a significant contributor to the productivity growth in other sectors; and (iii) benefits from training and educational investments accrue not only to the individuals undertaking the training but, also, to society at large in the form of a more informed and understanding citizenry. (For an expansion of these arguments, see W.J. Baumol, Economic Dynamics, The MacMillan Company, 1970) The colleges, probably in some collective manner, may need to focus more on assisting the government in informing the public at large of the benefits of public investment in the college system.

- The information and time available do not permit us to comment on whether resources devoted to expenditure items such as instructional equipment and professional development of college staff are adequate to ensure quality training. However, there are some concerns about the manner in which these items are funded by government. In the case of professional development and to a significant extent in the case of instructional equipment, colleges allocate funds to these items from their general operating revenues. In times of financial constraint, college administrators are often faced with the decision of choosing between staff lay-offs and reductions in staff development and equipment expenditures. The natural and quite laudable tendency is for administrators to attempt to minimize lay-offs at the expense of expenditures on staff development and equipment. While such behaviour may minimize the impact of financial restraint on staff morale and accessibility, it may also, in net terms, adversely affect the quality of training being provided, particularly if colleges face prolonged periods of restraint. If a greater percentage of government funds were targeted specifically for professional development and equipment/plant expenditures, the ability of colleges to impose 'forced savings' on these items would be reduced. Although we do not have a specific recommendation to make regarding the method of funding of professional development and equipment purchases, we urge that Vision 2000 explore the advantages and disadvantages of providing, to a greater extent than at present, specific grants for selected (and limited number of) expenditure items of colleges.

Related Background Documents Available at Council of Regents

Howard Rundle, Mini -Project #29 - College Expenditure Patterns, 1989.

5. College Staff

Age Distribution of College Staff and Human Resource Development (Project #15)

Findings

- By the year 2000, over one-fifth of current teachers and administrators will be 65 years or older.
- About 50% of current teachers and administrators will have retired by the year 2005.
- As the year 2000 approaches, the largest number of faculty, in terms of 5 year age groups, will be in the 50-54 year old age range.

Statistics Relating to College Employees' Age Distribution*

Age Statistics as of 1/1/1987	All	Faculty	Support	Admin.	Male	Female
Mean Age	43	44	40	44	44	41
Mode	39	43	38	44	44	40
Median Age	42	43	38	44	44	40
1st Quartile	35	39	31	38	38	38
3rd Quartile	51	51	49	50	52	49
% who will be:						
65 or older in the year 2000	20%	20%	18%	22%	24%	15%
Retiring by 2005 (Assumes average ret. age of 62)	44%	49%	36%	50%	51%	37%

*These statistics relate to the 15,746 full-time employees of the college system who are enroled in the College Pension Plan. Excluded are approximately 400 faculty and 100 administrators who are members of the Teachers' Superannuation Fund; these excluded employees would tend, on average, to be older than those belonging to the College Pension Plan.

- Recently a task force established by the Committee of Presidents completed a study entitled, Human Resource Development in the Third Decade. The study involved 376 college system employees with representation from faculty, administration, support staff, and Boards of Governors. Participants indicated (among other things) that:
    - more opportunities for orientation of new staff and career development of existing staff were needed;
    - specific programs were required to help employees keep their skills current; and
    - performance excellence should be more widely recognized and performance standards should be mutually set, while at the same time managers should be held accountable for the development of their staff.

Issues/Implications

- With the increasing numbers of new faculty who will be hired to replace retiring teachers, some form of 'compulsory' teacher training for all new teachers may be required to ensure that overall standards of teaching do not decline in the college system.

- With increasing numbers of teachers and administrators reaching and moving beyond the mid-point of their working lives, opportunities for these employees to keep current in their fields will need to be provided. More linkages with employers might be developed so that college staff may obtain first hand experience in the changing environments of business and industry.

- The relatively large number of retirements which will occur in the next decade and beyond provide colleges with an opportunity to alter, if indicated, the mix of their employees to better reflect the demographic/cultural characteristics of their student bodies and communities.

- As human resource development expenditures are often among the first to be cut in times of budgetary restraint, the question arises as whether MCU should target some grant funds specifically for human resource development in the college system.

Related Background Documents Available at Council of Regents

Bob Bernhardt, Mini-Project #15 - Age Distribution of Faculty and Human Resource Development, 1989

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